INDEX.

List of sub-headings:—AUTHORS, BANKRUPTCY PROCEEDINGS, CITY NOTES, CONTRACTS CLOSED AND OPEN, CORRESPONDENCE, INSTITUTION AND LECTURE NOTES, LEGAL, LIGHTING AND POWER NOTES, LIQUIDATIONS, NEW COMPANIES, NEW ELECTRICAL DEVICES, FITTINGS AND PLANT, OBITUARY, OFFICIAL RETURNS, PROSPECTUSES, RAILWAY NOTES, REVIEWS, TELEGRAPH NOTES, TELEPHONE NOTES, TRAMWAY NOTES, WAR ITEMS.

ABBOTT insulating cloth, 488
Accidents, 72
Accidents in the U.S., Steam turbine, 569.
Advertising, Commonsense in, by A. J. Hough, 579
Aeroplanes, Wireless transmitting stations on German, 607
A.E.G., The, 616
After-the-war electrical problems in Russia, 317
After war trade, Germany and raw materials for, 305
Agriculture, Electricity in, 21, 425, 472
Agriculture, The engineer and, 434, 439
Air blast rectification of high tension currents, 101
Air Inventions Committee, An, 592
Aircraft, Communication with, 616
Air raid warning, 88
Alliance of employers and employed, 473
Alternating current traction motors, Notes on, 196
Aluminium resources of the Empire, 14
Amalgamated Society of Engineers, The, 64, 281, 375, 569
American electric railways, Power sources of, 233
American loan issue, A large, 196
American war loan, 40,000 electrical employés subscribe to the, 29
America's export trade in electrical goods, by M. Chalmers, 413
Anchor Hospital and Distress Fund, 185
Anglo-Italian Trade, 583
Announcer at Dutch Auctions, Electric, 159
Appointments vacant, 40, 65, 90, 112, 136, 160, 186, 210, 232, 257, 282, 305, 329, 353, 377, 401, 424, 446, 473, 496, 521, 543, 569, 593, 617
Apprentices for the electrical trades, Training, 281, 377
Apprenticeship, Terms of, 15
Arc lamps and incandescent lamps, Modern, 531, 556
Arcs for bioscope, Steady, 520
Argentine Republic, 563
Arms, Mechanical, 374
Artificially loading hydro-electric generators on test, 24
Association movement, The, 313
Association movement, The, by H. H. Berry, 344
Association of Electrical Station Engineers, 352, 377, 401, 425
Atmospheric nitrogen, The fixation of, 340, 365, 387
Australia, British and American electrical trade with, 406
Australia, Electrical rain-making in, 295, 447, 520
Australia, Japanese electrical deputation to, 467
Australia, Super-tax on British trade with, 346
Australian brown coal deposits, 137
Australian Bureau of Science, 153
Australian electric steel, 519
Australian Metal Co. and the A.E.G., 377
Australian scheme, Empire trade organisation, 447
Australian strike, The, 354
Australian tramway men, Wages of: arbitration, 448
Austria, Drawn wire lamps in, 467
Austria's future export trade, 468

AUTHORS—
Arnold, A., on The pyschology of power house shift work: An ex-shiftman's reflections, 69; on the Romance of electrical work, 508
Barham, G. Basil, on Justifiable industrial unrest, 607
Beaver, C. J., on V.B. cable breakdowns in the tropics, 237
Berry, H. H., on The association movement, 344
Blake, H. E., on Fault localisation by drop of potential, 172
Buyers, C. Stuart, on Insurance of electrical machinery, The, 580, 605
Chalmers, M., on Japan's progress in the electrical industry, 124; on American export trade in electrical goods, 413
Chitty, A. V., on Reinforced concrete poles for transmission cables, 608
Crowley, J. F., on The production and distribution of power, and its influence on the development of Irish industry, 174
"Commmercial," on The state of trade, 503
Dalrymple, J., on The rule of the footpath, 298
Ellerd-Styles, W., on Some practical experiences with tough rubber compound cables, 291
Ellis, A. G., on Some notes on British and Continental engineering methods and training, 213
Gillott, W. A., on Electrical cooking as applied to large kitchens, 597, 621
Hering, C., on An enlarged electron of practical size—The Faraday, 8
Holford, G. W., on Tramway finance, 297
Holt, A. O., on The future of the electrical industry, 460
Hough, A. J., on Commonsense in advertising, 579
Hunter, T. M., on Gas-firing boilers, 509, 549, 573, 609
Hutchison, D. M. W., on V.R. cable breakdowns in the tropics, 172
Kaye, Capt. G. W. C., on X-rays after the war, 525
Kelley, F. C., on Permanent magnets, 166
Kennedy, D. Ross, on Engineering publicity, 243; on Research organisation, 435
Lawson, A. J., on London County Council tramway results, 149
Lindstrom, Prof. A., on Leads for electric furnaces, 56
Lyons, W. V., on Determining phase rotation, 71
Milburn, R. L., on A long-distance duplex-working central battery system, 460
Murgatroyd, F., on The examination of commutation conditions in interpole machines, 173

AUTHORS—*continued*
Pausey, E. B., on Coal stack fire risks, 603
Poole, E., on Union of South Africa municipal electrical undertakings, 320, 357
Porter, G., on Tar oil fuel and Diesel engines, 30, 105
Priestley, J. A., on Electric vehicles in Sheffield, 55, 118
"Pulveriser," on Diesel engines and the war, 549
"Radix," on The education and training of engineers, 507, 532, 555, 562
Raine, Councillor C., on The development of tramways, 298
"Research," on A good summer load, 76
Reuss, E., on Electrolysers and their management, 75
Roberts, C. H., on Water supplies as sources of power, 560
Roberts, J., Presidential address to the Association of Municipal Electrical Engineers (Union of South Africa), 437
Robertson, J. A., on Fuel economy, 5
"Rover," on Should the chief concern himself with detail, 535
Russell, H. R., on Automatic control of blast pressure for Diesel engines, 463
Sankey, Capt. H. Riall, on Heat Engines, 560
Scott, E. K., on Electric steel furnaces, 45; on Manufacture of synthetic nitrates by electric power, 93; on The manufacture of nitrate of ammonia by electric power at coke oven plants, 238
Smith, E. W., on Electric power generation by gas, 95
Stubbings, G. W., on Errors of registration of electricity meters with varying loads, 4; on Some notes on diving bell covers for disconnecting boxes, 123; on Some notes on staff organisation in electricity works, 150; on Some suggestions for the prevention of mistakes in meter reading, 267; on Some curiosities of early mains work, 293; on An approximate method of checking the accuracy of a direct reading insulation testing set, 315; on Office organisation in municipal electricity undertakings, 462; on Salaries of central-station officials, 484
"Tramp Royal," on Specialising and specialists, 315
Tucker, S. A., on A granular carbon electric furnace, 143
"W. A. E. M.," on Direct-current machines: Some notes on estimating, 165; on Direct-current balancers, 292
Wans, O., on The working costs of the principal prime movers, 391
Welbourn, B., on The properties of electrolytic copper: Modulus of elasticity, 587
Weston, P. L., on A magnetic steel band drive, 383

AUTHORS—*continued*
Wilson, W. J., on Water heating by electricity, 567
Wood, T. H., on The theoretical consideration of the ventilation of sub-stations and transformer houses, 51
Wordingham, C. H., Presidential address to the Institution of Electrical Engineers, 478, 501, 527
Wright, C. H., on Electrostatic voltmeters, 413
Young, A. P., on The high-tension magneto, 310, 333, 381, 405, 429

Automatic control of blast pressure for Diesel engines, by H. S. Russell, 463
Aviation, Electricity in, 397
Awards, Electrical wages, 20
Award of the Committee of Production, Engineers, 135, 568

BALANCER used for testing purposes, 196
Balancers, Direct current, by "W. A. E. M.," 292
Bank for industry, Indian, 472
Bank, Proposed Industrial, 612
Banking, Chambers of Commerce and, 257

BANKRUPTCY PROCEEDINGS—
Brown, F., 156, 325
Connold, R. E., 421
Coster, S. S., 445, 563
Felgate, A. E., 421
Ogilvie, C. B., 36, 181
Oxley, H. H., 300
Parfitt, G. J. T. J., 156, 253
Parsons, W., 252
Peddie, J. T., 131

Barcelona University, Electrical instruction at, 424
Battery ignition for petrol motor vehicles, Magneto v., 383
Battery manufacture, Storage, 443
Beds, Electrically-heated, 594
Belfast strike, The, 256, 306, 404, 567
Bells, Underground signalling, 94
Bequest for research, 112
Benevolent Institution, Electrical Trades, 567
Bioscopes, Steady arcs for, 520
Birmingham Corporation electrical employés, 567, 591
Blast pressure for Diesel engines, Automatic control of, by H. S. Russell, 463
Board of Trade, Commercial intelligence work of the, 60, 185, 219, 257, 348
Board of Trade Committee on Electricity Supply, 15, 39, 59, 88, 112
Board of Trade Electricity Committee, Scottish local authorities and, 473
Board of Trade urges British manufacturers to combine, 281
Boat, An electric war, 439, 473
Boilers, Gas firing, by T. M. Hunter, 509, 549, 573, 609
Books for British prisoners of war, 184, 568
Brains, Workmen's, 592

324683

Brake, Electric loom, 136
Brazil, 229
Brazil, Trade with, 348, 515
Breakdowns in the tropics, V.B. cable, by D. M. W. Hutchison, 172; by C. J. Beaver, 237
British and Continental engineering methods and training, Some notes on, by A. G. Ellis, 213
British Association, 41, 68
British Dyes, 401
British Electrical and Allied Manufacturers' Association membership, Additions to, 40
British Engineers' Association, The, 134
British Engineering Standard Committee and Anglo-American co-operation, 346
British export trade, New co-operative scheme to develop, 562
British Ignition Apparatus Association, 282
British Industries Fair, 491
British Industries, Federation of, 393
Brook, Ltd., Huddersfield, The "Empress" Works of Messrs. E., 339
Brougham test, American electric, 137
Budapest without light, 569
Buyers—Beware! 64

CABLE breakdowns in the tropics, V.B., by D. M. W. Hutchison, 172; by C. J. Beaver, 237
Cable factory, New German, 468
Cable telegraphy, Multiplexing in, 165
Cables, Copper for, 256
Cables, Some practical experiences with tough rubber compound, by W. Elford-Styles, 291
Calcium carbide, Ministry of Munitions order, 304
Camp equipment, United States training, 144
Canada, Notes from, 558, 586
Canada, Swedish trade in, 12
Canada, Trade with, 157, 159, 342
Canada, U.S. electrical exports to, 253
Canadian electric cooking notes, 142
Canada's coal supply, 68
Canal, Forth and Clyde ship, 160
Canal transport, 282
Canoes, Electric, 250
Canteen, An electrical, 305
Car, The one man light-weight safety, 506
Carbon electric furnace, A granular, by S. A. Tucker, 143
Carbon electrode furnace, A new U.S., 135
Carbon factory, New Norwegian, 456
Cardiff electrical dispute, 136
Cast iron as a bearing metal, 280
C.A.V. new electric starter, 305
Celluloid, The effect of heat on, 616
Central battery system, A long-distance duplex-working, by R. P. Milburn, 461
Central station employés, St. Pancras proposals, 400
Central station officials, Wages of, by G. W. Stubbings, 484
Central stations, Supplies for German, 404
Central station workers, The wages of, 280, 303
Channel tunnel, The, 120, 183
Charing Cross Hospital, The temperature control system in the, 440
Charlottenburg in 1916, Electrical work at the Physikalisch-technische Reichsanstalt, 391
Chelmsford, Charity sports at, 209
Cheshire, Water power proposals, 2
China clay combination, 420
China, Electrical trade in, 261
China, Engineering in, 402
China, Japanese electrical exports to, 60
Christmas, The spirit of this, 577

CITY NOTES—
Adelaide Electric Supply Co., 547, 571
Allgemeine Elektrizitats Gesellschaft, 403, 546
Aluminium Corporation, 19
Amalgamated Wireless (Australasia), 451
Amazon Telegraph Co., 499, 546
Anderston Foundry Co., 428
Anglo-American Telegraph Co., 91, 403
Anglo-Argentine Tramway Co., 595
Anglo-Portuguese Telephone Co., 379
Auckland Electric Tramways Co., 475, 523
Austrian companies, 115
Automatic Telephone Manufacturing Co., 596
Automatic Telephones (Australasia), 331
Avery, W. & T., 67, 620
Babcock & Wilcox, 403
Barbados Electric Supply Corporation, 571
Barcelona Traction, Light & Power Co., 451
Blackpool & Fleetwood Tramroad Co., 188
Blackpool, St. Annes & Lytham Tramways Co., 620
Bogota Telephone Co., 523
Brazilian Traction, Light & Power Co., 67, 236, 547
Brisbane Electric Tramways Investment Co., 379
British Aluminium Co., 284
British Columbia Electric Railway Co., 19
British Electric Traction Co., 524
British Electric Transformer Co., 331
British Ever-Ready Co., 499
British Insulated & Helsby Cables, 284
British Thomson-Houston Co., 67, 91, 114
Bristol Tramways & Carriage Co., 115
British Vacuum Cleaner Co., 572
British Westinghouse Electric and Manufacturing Co., 595
Bromley (Kent) Electric Light & Power Co., 259
Brompton & Kensington Electricity Supply Co., 163
Brotherton Tubes and Conduits, 259
Browett, Lindley & Co., 19
Bournemouth & Poole Electricity Supply Co., 91
Calcutta Electric Supply Corporation, 140, 188, 307, 428, 499, 571
Calcutta Tramways Co., 355, 379
Callender's Cable & Construction Co., 331
Callender's Share & Investment Co., 499
Canadian General Electric Co., 236, 572
Cape Electric Tramways, 499, 547, 571.
Cape Town Consolidated Tramways and Land Co., 259
Castner-Kellner Alkali Co., 499, 523
Central London Railway Co., 92
Charing Cross, West End & City Electricity Supply Co., 115
Chile Telephone Co., 43
Chloride Electrical Storage Co., 259, 499
City & South London Railway Co., 92
City of Buenos Aires Tramways Co. (1904), 91
City of London Electric Lighting Co., 235
Claud Hamilton, 403
Clevedon, Portishead & District Electric Supply Co., 91
Clyde Valley Electrical Power Co., 236
Coalite, 499
Compagnie Francaise des Cables Telegraphiques, 450
Companies struck off the register, 547, 595
Companies to be struck off the register, 211, 259, 307, 332, 355
Consolidated Electrical Co., 19, 139
Costa Rica Electric Light & Traction Co., 620
County of Dorset Electric Supply Co., 283
County of London Electric Supply Co., 211
Coventry Chain Co., 572
Credenda Conduits Co., 428
Crompton & Co., 91, 138
Crossley Bros., 187
Cuba Submarine Telegraph Co., 355
Davis & Timmins, 235
Dick, Kerr & Co., 403, 427
Direct Spanish Telegraph Co., 284
Direct United States Cable Co., 43, 355
Direct West India Cable Co., 332
Drake & Gorham, 427, 475
Dublin United (Electric) Tramways, 44
Dublin United Tramways (1896), 43
Dumbarton Burgh & County Tramways Co., 259
East London Railway Co., 572
Eastern Extension, Australia & China Telegraph Co., 91, 284, 379, 427, 595
Eastern Telegraph Co., 284, 379, 427, 571
Edison & Swan United Electric Co., 571, 619
Edmundson's Electricity Corporation, 43
Electric & General Investment Co., 43
Electric Construction Co., 499
Electric Supply Co. of Victoria, 379
Electrical Securities Trust, 524
Electrical Utilities, 91
Electro-Bleach & By-Products, 187
Erinoid, 403
Escher, Wyss & Co., 355
Fellows Magneto Co., 379
Ferranti, 595
Folkestone Electric Supply Co., 259
Fraser & Chalmers, 43, 331, 547, 595
French Companies, 91, 115, 139, 187, 300, 491, 499, 515, 547, 589
Gandy Belt Manufacturing Co., 259
General Electric Co., 42, 66
General Electric Co., U.S.A., 91
German companies, 235, 306, 379, 498
Glenboig Union Fireclay Co., 355
Globe Telegraph and Trust Co., 284, 547
Greenwood & Batley, 91
Guildford Electricity Supply Co., 188
Hadfields, 67
Halifax and Bermudas Cable Co., 331
Harris, J. F. & G., 572
Havana Electric Railway, Light, & Power Co., 43
Henley's Telegraph Works Co., W. T., 163
Hong Kong Tramway Co., 115
Hornsby, R., & Sons, 523
Hungary, 572
Hurst, Nelson, & Co., 428
India-Rubber, Gutta-Percha & Telegraph Works Co., 571, 618
Indian Electric Supply & Traction Co., 451
Indo-European Telegraph Co., 114, 355
International Light & Power Co., 427
Isle of Wight Electric Light & Power Co., 451
Italian Companies, 491, 563
Kalgoorlie Electric Tramways, 162, 331
Kaministiquia Power Co., 67, 91, 379
Kensington & Knightsbridge Electric Lighting Co., 140
Lancashire Dynamo & Motor Co., 163, 380
Lancashire Power Construction Co., 67
Lima Light, Power & Tramways 67, 379
Liverpool Overhead Railway Co., 91
London & Suburban Traction Co., 115
London Electric Railway Co., 92
London United Tramways, 114
Madras Electric Tramways, 235
Manila Electric Railroad & Lighting Corporation, 284, 595
Manaos Tramways & Light Co., 331
Manx Electric Railway Co., 571
Marconi International Marine Communication Co., 42, 236, 331
Marconi Wireless Telegraph Co., 114, 162, 620
Marconi Wireless Telegraph Co. of Canada, 354
Mather & Platt, 67
Melbourne Electric Supply Co., 547
Metropolitan District Railway Co., 92
Metropolitan Electric Supply Co., 67
Metropolitan Railway Co., 115
Monte Video Telephone Co., 451, 498
Montreal Light, Heat & Power Co., 379
Montreal Tramways Co., 140, 332
Nairobi Electric Power & Lighting Co., 67, 476
National Gas Engine Co., 115
National Telewriter Co., 380
Newcastle-upon-Tyne Electric Supply Co., 235
New issue, 67
North London Railway, 115
North Metropolitan Electric Power Supply Co., 403
North Melbourne Electric Tramways and Lighting Co., 91
Northampton Electric Light & Power Co., 523
Norwich Electric Tramways Co., 451
Oldham Ashton & Hyde Electric Tramways, 163
Oriental Telephone & Electric Co., 355
Oxford Electric Co., 211
Paris Metropolitan Railway, 43
Parsons Marine Steam Turbine Co., 380
Pernambuco Tramways & Power Co., 114
Pollock & Macnab, 547
Power Gas Corporation, 523, 571
Provincial Tramways Co., 547
Quebec Railway, Light, Heat & Power Co., 476
Rawlings Bros., 524
Reddaway & Co., F., 595
Reduction of capital, 188, 236
Richardsons, Westgarth & Co., 618
Rio de Janeiro Tramway, Light, & Power Co., 67, 355
Ross Electric Light & Power Co., 571
Royce, 355
Russian companies, 115, 235, 259, 428
Ruston, Proctor & Co., 523
St. James' & Pall Mall Electric Light & Power Co., 67
Sao Paulo Tramway, Light & Power Co., 43, 67, 355
San Luis (Mexico) Tramways Co., 163
Shanghai Electric Construction Co., 355
Shawinigan Water & Power Co., 331
Singapore Electric Tramways Co., 67
South American Light & Power Co., 91
South Brazilian Railways Co., 91
South Metropolitan Electric Light & Power Co., 163
Spain, 92, 139
Spain & General Wireless Trust, 620
Steward & Lloyds, 188
Stock Exchange notices, 211, 259, 307, 331, 403, 499
Stothert & Pitt, 475
Swiss Brown Boveri Co., The, 139
Swiss companies, 43, 331, 498
Tata Hydro-Electric Power Supply Co., 547
Telegraph Construction & Maintenance Co., 19
Trafford Park Estates, 476
Tubes, 379
Tudor Accumulator Co., 131
Tyneside Tramways & Tramroads Co., 187, 235
Underground Electric Railways Co., 92
United Electric Tramways of Caracas, 476, 499
United Electric Tramways of Monte Video, 18
United River Plate Telephone Co., 380
United Wire Works, 547
Vera Cruz Electric Light, Power & Traction Co., 618
Vickers, 140
Victoria Falls & Transvaal Power Co., 258, 306, 428
Waste Heat & Gas Electrical Generating Stations, 139
West African Telegraph Co., 67
West Coast of America Telegraph Co., 19
West India & Panama Telegraph Co., 403
Western Telegraph Co., 475, 547
Westinghouse Brake Co., 428
Westminster Electric Supply Corporation, 115
Willans & Robinson, 140
Winnipeg Electric Railway Co., 44
Yorkshire Electric Power Co., 114
Zurich Bank for Electrical Undertakings, 451

Civil Service, Science and the, 520
Clearing house for railways, A goods, 521
Coal and coke oven gas firing, Combined, 199
Coal concreted from dust or ashes, 124
Coal consumption and inter-connection of electricity works, Economy in, 15
Coal deposits, Australian brown, 137
Coal, Emergency storage of, 296
Coal, Household, 304, 330
Coal in bulk, Storage of, 448
Coal mining, Electricity in, 575
Coal prices, Regulation of, 15, 257
Coal production, 294
Coal saving electric plant, Russian grant, 304
Coal shortage, Causes of German, 448
Coal shortage in Switzerland, 352
Coal stack fire risks, by E. B. Pausey, 603
Coal supply, Canada's, 68
Coal transport, Reorganisation scheme, 29
Coal transport reorganisation scheme: Special fuel, B. of T., 64
Coal wagons, 330
Coal with an electric truck, Handling, 308
Collieries, New South Wales, 432
Colliery signalling patents, 519
Combination, China clay, 420
Combination, Iron and steel trade, 586
Combination, The question of, 328
Commercial Intelligence Service, 66, 185, 219, 257, 348
Commercial treaties, 473
Commissioners, Trade, 194
Commutation conditions in interpole machines, The examination of, by F. Murgatroyd, 173
Competition for electric cookers, 185
Concrete poles for transmission cables, Reinforced, by A. V. Chitty, 606
Conference of electrical engineers in India, 41
Congress of Civil Engineers, 41
Contract conditions, L.C.C. electrical, 589
Contract, Damages on failure to complete a, 324

CONTRACTS CLOSED—
Accrington, 328
Aldershot, 38
Australia, 87, 471
Aylesbury, 303
Barrow, 110, 328
Basingstoke, 133
Bath, 110, 374
Bexhill-on-Sea, 328
Bolton, 566
Bradford, 255, 351, 488
Bridlington, 38, 133
Brighton, 14
Bury (Lancs.), 519
Bury St. Edmunds, 494
Buxton, 38
Cape Town, 376
Cootehill (Co. Cavan), 282
Dartford, 38
Derby, 38, 110, 351, 539
Dublin, 328
East Ham, 433
Erith, 328
Faversham, 539
Glasgow, 183, 279, 374, 519, 566, 591
Gloucester, 110
Government contracts, 87, 183, 279, 400, 494
Grimsby, 519
Halifax, 38, 446
Hammersmith, 63, 255, 400
Hereford, 374
Heywood, 159

CONTRACTS CLOSED—*continued.*
Hull, 38
Ilford, 328, 433
Johannesburg, 87
Kettering, 255
Lancaster, 566
Leicester, 110
Leigh, 183
Leyton, 110
London, 63, 110, 255, 279, 351, 374, 400, 446, 539
London County Council, 110, 374
Londonderry, 63
Marylebone, 350, 446
Melbourne, 87, 471
Meter contracts, 400
Newport (Mon.), 63, 87
New Zealand, 87
Peterborough, 150
Poplar, 63, 279, 591
Rotherham, 133
St. Pancras, 279, 400
Salford, 14, 110, 232, 540
Sheffield, 38, 130, 255, 351, 446, 566
Shoreditch, 63
Southend-on-Sea, 209, 279, 374
Spenborough, 133
Stafford, 351
Stepney, 110, 351, 446, 539
Stoke-on-Trent, 133
Stoker contracts, 398
Stretford, 351
Sunderland, 38, 255, 374, 494
Sutton, 540
Swansea, 63, 566
Swindon, 209
Sydney, 471
Taunton, 400
Tilbury, 209
Tonbridge, 303
Transformer contracts, 352, 400
Walthamstow, 111, 328
Waterford, 110
Weymouth, 87, 540
Wolverhampton, 38, 110, 255, 368, 446, 566

CONTRACTS OPEN—
Aberdeen, 423, 446, 471
Adelaide, 471, 493, 519
Aldershot, 38
Argentina, 519, 539, 566, 591, 614
Ashton-under-Lyne, 519
Australia, 14, 38, 63, 87, 110, 133, 158, 183, 209, 232, 255, 279, 423, 446, 471, 493, 519
Beckenham, 423, 446
Bermondsey, 110, 133, 158, 183, 208, 232
Blackburn, 87, 110
Bolton, 539, 566, 591, 614
Bradford, 446
Brighton, 566
Carlisle, 471, 493, 519
Dublin, 14, 38, 209, 232, 255, 351, 374, 400, 471
Dunfermline, 209
Edinburgh, 14
Enniskillen, 423, 446, 471
France, 493
Glasgow, 14, 38
Great & Little Usworth, 539
Grimsby, 351, 374, 400, 493
Hull, 14, 38
Ilford, 63, 87
Islington, 38
Keighley, 38, 62, 87, 110, 158, 591, 614
Kensington, 279
Kettering, 158, 183
Kirkcaldy, 255, 279, 303
Leeds, 519
Liverpool, 279
London, 38, 62, 133, 158, 183, 209, 232, 255, 279, 351, 519
London County Council, 63
Manchester, 14, 133, 232, 255, 279, 471, 493, 519, 639, 614
Melbourne, 87, 133, 158, 183, 208, 232, 255, 471
Merthyr Tydvil 279
Morecambe, 328, 351
Newcastle (N.S.W.), 471
Newcastle-on-Tyne, 471
New Zealand, 183
Office of Works, H.M., 63, 110, 133, 158, 255, 351, 519
Perth (W.A.), 423, 446, 471, 493, 519
Portsmouth, 133, 158, 183
Rathmines, 158, 183, 493
South Africa, 423, 446
Spain, 14, 38, 183, 232, 400, 423, 566, 591
Stockton-on-Tees, 209, 232
Sydney, 14, 38, 87, 471, 519
Tipperary, 591, 614
Wakefield, 446
Walsall, 423
Warrington, 87, 110, 255, 471
West Ham, 14, 38
York, 400, 423

Control of trade, City business men and the, 397
Control wiring, Furnace, 294
Cooking as applied to large kitchens, Electrical, by W. A. Gillott, 597, 621
Cooking box, A portable electric lamp, 443
Cooking, Electric, 602
Cooking, Electricity for, 169
Cooking in the factory, Electric, 177
Cooking notes, Canadian electric, 168
Cooling, Electrode, 329
Co-operation between gas and electricity, 474
Co-operation in export trade, 449
Co-operative scheme to develop British export trade, New, 502
Co-operative trade abroad, 433
Copper, Australian, 495
Copper for cables, 258
Copper from America, 569
Copper, Japanese, 16
Copper: Modulus of elasticity, The properties of electrolytic, by B. Welbourn, 587
Copper output, American, 116

CORRESPONDENCE—
Accountancy in small undertakings, by "Country Mouse," 346
A.E.S.E. and central station staffs, by W. J. Ebben, 185
Apprenticeship in electricity supply, by "Pro Bono Publico," 416
Association movement, The, by O. N. Looker, 370; by L. B. Atkinson, 375, 467; by H. H. Berry, 395, 487; by F. S. Paterson (Lieut.), 416; by R. C. Anderson, 467
British methods in foreign trade, by J. W. Meares, 535
Captive balloons and lightning, by K. Hedges, 102
City and Guilds lists of works of reference, by A. P. Lundberg and Sons, 224
City Guilds' subject—"Electrical Installation Work," The, by A. P. Lundberg & Sons, 294
Curiosities of early mains work, by A. E. Baker, 369
Diesel engine fuel, by "Flameplate," 559
Distinctive colours for braided cables, by T. D. Spark, 611
Electricity and agriculture, by "E. S. S.," 559
Electricity supply meters and fuses, by "H. G.," 345
Electro-Culture, by Leslie Miller, 9; by W. A. Turnbull, 32; by "The Writer of the Article," 102
Employment of disabled soldiers, by "E. M. F.," 128; by A. Bridges, 128; by "Megger," 153; by "A.M.I.Mech.E., A.M.I.E.E.," 179; by D. F. Barton, 203
Engineering policy in France, Prospective, by R. C. Anderson, 128
E.T.U. or the A.E.S.E., The, by W. J. Webb, 295, 415; 467; by W. G. Ritchie, 319; by "Shift Engineer," 345; by C. W. Barnes, 345; by "Engineer-in-Charge," 346; by H. H. Morton, 369, 414, 467; by W. A. Jones and H. W. Healey, 369, 441; by "W. E. R.," 395; by "C. B. T.," 441; by J. R. W. Grange, 443; by "Alpha," 442; by F. D. Napier, 442; by "One who was present," 466; by "W. F. K.," 466; by J. Vincent, 467, 535, 585, by "X.Y.Z.," 488; by "E. T. U. Ease.," 488; by "Progress," 511; by "Puzzled Engineer," 535; by W. H. Streeter, 559
Editorial Advisory Council, An, by Barimar, Ltd., 273
Efficiencies of lighting systems, The, by E. Stroud, 586
Electric radiators, by "F. L. M.," 32
Electricity Supply Engineers' Association, by "Chief Assistant," 488
"European Concert," A, by R. Grierson (Capt.), 294
Fault localisation, by W. Rajmayne, 224
Functions of a borough electrical engineer, The, by H. Brand, 585; by A. Green, 617
Fusing of an electric wire, Re the, by E. O. Walker & Co., 273; by L. B. Wilson, 295; by "Contractor," 319
German cables specified in war time, by R. Falshaw, 511
I.E.E. discussion on the metric system, by H. Allcock, 510
Induction, Methods of fault localisation, by "North Staffs," 9; by H. E. Blake, 71
Institution of Electrical Station Engineers, An, by J. W. Thomas, 584
Instructions to meter readers, by P. O. Witney, 319; by G. W. Stubbings, 346; by "A. B.," 370
Magnets and Magnetos, by "B. E. F.," 396
Niche and its occupant, The, by "F. E. S.," 396
Old lamp tops, by H. W. Brown, 319
Perils of jesting, The, by "Jack Point," 138
Portable electric lamp cooking box, by J. Jackson, 467; by P. Watson, 510
Production of ductile tungsten, The, by The British Thomson-Houston Co., 611
Prohibited imports, by Hotpoint Electric Heating Co., 559; by T. Birkett, 585; by "A. E. I.," 585
CORRESPONDENCE—*continued.*
Prospects of the central station engineer, by "Staff Electrician," 294; by J. A. Vice, 369; by "One of the Herd," 415; by "Engineer," 416; by "W. F. K.," 416
Psychology of power house shift work, The, by "Shiftero," 102; by A. O. Holt, 102; by T. N. Morris, 153, 180
Recruiting and dilution of labour, by "Carry-on," 102
Resistance of two circuits in parallel, A graphic method of calculating the, by L. O. Meyer, 442; by A. G. Helling, 511
Reviewers, A revelation concerning the ways of, by W. Perren Maycock, 71, 83
Salaries of central station officials, by "Assistant," 72
Scale on evaporative "condenser tubes," by "Central," 373; by C. Orme Bastian, 319
Signalling bells, Underground, by A. W. Brown, 203
Staff organisation in electricity works, by "Engineer," 203
Static electricity phenomenon, A, by J. O. Grant & Taylor, 272; by W. Frisby, 295; by H. W. Brown, 319
Status of draughtsmen, by J. D. Murray, 535
Symbols for electrical tenders, by Norman Hockley, 103
Teaching of electrical installation work, The, by A. P. Lundberg and Sons, 442; by S. Nichols, 488
Ten-mile limit, The, by "Wolverhampton," 203
Training Chinese engineering representatives for Chinese trade, by "Celestial," 510
War Bonus for W.O. station engineers, by "Had Some," 373; by "Married Man," 319
Water-power proposals, by T. Smith, 71

Cost of the principal prime movers, The working, by O. Wans, 391
Costs in electric furnace operation, 222
Costs, Textile power, 176
Crops, Electricity and the, 615

DAMAGES on failure to complete a contract, 324
Danger of compressed oxygen, 15
Death by induction, 20
Decimal coinage and the metric system, 135, 155, 192, 280, 329, 377, 472, 480, 494, 529, 567, 582
Denmark, Electric steel manufacture in, 340
Depreciation of foreign investments, The Zurich Bank and the, 497
Development of tramways, The, by Coun. C. Raine, 298
Diesel engines and the war, by "Pulveriser," 549
Diesel engines, Tar oil and, by G. Porter, 30, 105
Diesel engines, Tar oil as fuel for, 280
Dilution of labour, 160
Dilution, The engineers' ballot on, 118
Dinner, London electrical contractors', 354
Direct-current balancers, by "W.A.E.M.," 292
Direct current machines, Some notes on estimating, by "W.A.E.M.," 165
Directors, Company, 156
Disabled men, Training, 41, 379
Disconnecting boxes, Some notes on diving bell covers for, by G. W. Stubbings, 123
Disinfecting fluid, Electrolytic, 209
Dissolutions, 36, 84, 107, 131, 491, 515, 538
Diving bell covers for disconnecting boxes, Some notes on, by G. W. Stubbings, 123
Domestic electric heating problems, 477, 485, 543
Drive, A magnetic steel band, by P. L. Weston, 383
Dublin electricians' wages, 442

ECONOMIC organisation, German, 454
Education and training of engineers, by "Radix," 507, 532, 555, 582
Education, Higher, 65
Education, Industry and, 304
Education, Reform in, 171
Educational, 40, 89, 112, 159, 184, 210, 232, 256, 281, 328, 434, 446, 496, 543, 592, 616
Egypt, Trade statistics of, 202
Eight Hours' Law suspended, United States, 352
Electric Construction Co. works institute, 490
Electric drive for the U.S. battleship "Tennessee," 249
Electric vehicle notes, 221, 496
Electric vehicles, A New Zealand forecast, 303
Electric vehicles in Siam, 304
Electrical Contractors' Association, The "Guarantee of work scheme" of the, 520
Electrical employés, Birmingham Corporation, 567
Electrical energy, War prices for, 316
Electrical machinery, British standards for, 424, 436
Electrical machinery in British Malaya, 562
Electrical machinery, Insurance of, by C. Stuart Buyers, 580, 606
Electrical Trades Benevolent Institution, 567
Electrical Trades Committee, Report of the, 64
Electrical Trades Union, 177, 472
Electrical Trades Union, Marylebone Electricity Department and the, 63
Electrical treatment, New methods of, 569
Electrical undertakings, Union of South Africa municipal, by E. Poole, 320, 357
Electrical work in the tropics, 45
Electrical work, Romance of, by A. Arnold, 508
Electrically controlled motor boats, 439, 473
Electrically-heated moulding presses, 64
Electricity in agriculture, 21, 435, 472
Electricity in coal mining, 575
Electricity supply in Paris, 99
Electricity supply, National: A Board of Electricity Commissioners, 584
Electricity supply on board ship, 111
Electricity supply organisation, 614
Electricity supply reorganisation, The Incorporated Municipal Electrical Association and, 123, 129
Electricity supply restrictions and prices in Germany, 266, 482
Electricity supply, Salaries and wages in, 481
Electricity supply, Super, 578
Electricity supply, The Board of Trade Committee on, 15, 39, 50, 88, 112
Electricity supply, U.D. Councils Association and, 112, 473
Electricity used for driving cattle, 78
Electricity works, Wages in Metropolitan, 521, 543
Electro-culture, 136, 160, 377
Electro-culture committee, An, 336
Electro-culture, Some notes on H.T. discharge apparatus, 21
Electro-deposition of zinc, The, 281
Electro-Harmonic Society, 304
Electro-metallic effects across very thin insulating sheets, 520
Electrostatic voltmeters, by C. H. Wright, 413
Electro-thermal processes, Low temperature, 11
Electrode cooling, 329
Electrode furnace, A new U.S. carbon, 135
Electrodes for electric furnaces, Their manufacture, properties, and utilisation, 245, 285, 309
Electrolysers and their management, by E. Reuss, 75
Electrolytic disinfecting fluid, 209
Electrolytic iron for commercial use, 321
Electrolytic treatment of zinc ore, The, 127
Electron of practical size, An enlarged, The Faraday, by C. Hering, 8
Employers and employed, Alliance of, 473
Employers' organisation, 424
"Empress" works, of Messrs. E. Brook, Ltd., of Huddersfield, The, 339
Energy released by boiler explosion, 212
Engine-starting set, The Rhodes Firth combined lighting and, 453
Engines, Heat, by Capt. H. Riall Sankey, 560
Engineer and agriculture, The, 435, 439
Engineer in national affairs, The position of the, 117
Engineer, The rôle of the, 98
Engineering Congress, 281
Engineering Council of the United Engineering Societies U.S.A., 220
Engineering establishments after the war, The question of the staff in, 368
Engineering methods and training, Some notes on British and continental, by A. G. Ellis, 213
Engineering plants in large hotels, The, 367
Engineering publicity, by D. Ross Kennedy, 243
Engineering wages, Further advance, 65, 301, 447
Engineering, Women's work in, 303
Engineers, An institution of electricity supply, 489, 519, 543
Engineers' award, The, 135, 569
Engineers, Education and training of, by "Radix," 507, 532, 555, 582
Engineers, Metropolitan power station, 246, 281, 305, 352, 377
Engineers, The training of, 402, 418, 430
Errors in thermometry, 184
Estimating, Direct current machines, Some notes on, by "W.A.E.M.," 165
Excess profits duty, 64
Exhibition of industries, French, 220

Exhibition in New Zealand, An, 420
Explosion at Krupp's power station, 617
Explosion, Energy released by boiler, 212
Export facilities to the continent, 244
Export trade, Austria's, 468
Export trade, Co-operation in, 449
Export trade in electrical goods, America's, by M. Chalmers, 413
Export trade, New co-operative scheme to develop British, 562
Exports and imports of electrical goods during May and June, 1917, 101; July, August, and September, 429
Eye, The sensibility of the, 511

FACTORY operations delayed by workers, 256
Fair, British industries, 491
Faraday, The, An enlarged electron of practical size, by C. Hering, 8
Farming, Electricity in, 21, 425, 472
Fatalities, 16, 40, 112, 127, 160, 185, 281, 376, 497, 520, 568
Fault localisation by drop of potential, by H. E. Blake, 172
Federated labour, 87
Federation of British Industries, 393
Filament, Lamp with renewable, 497
Filiform crystal and its uses in the glow lamp, 540
Finance, Tramway, 290
Fire in Leipzig telephone exchange, 376
Fire Prevention Committee, The British, 425, 541
Fire risks, Coal stacks, by E. B. Pausey, 603
Fire warning, Christmas, 569
Fires, 84, 156, 181, 229, 276
First aid in factories, 163
Fixation of atmospheric nitrogen, 16, 63, 340, 365, 387
Flash lamps, Magneto, 616
Footpath, The rule of the, by J. Dalrymple, 298
Foreign and Colonial tariffs on electrical goods, 48, 144, 192, 240, 288, 336, 360, 384, 408, 600
Foreign trade, 63, 159, 279, 375, 494, 591
Foreign trade competition measures, Post-war, 89
Foreign trade intelligence, 99
Foremen engineers, Wages of, 353
Forth and Clyde Ship Canal, 160
France, The ignition magneto in, 194
French electrical industry, The, 26
French exhibition of industries, 329
French front, Telegraphy and telephony at the, 459
Fuel economy, by J. A. Robertson, 5
Fuel economy and control, 25
Fuel research, 376
Fuels in pulverised form, The utilisation of undeveloped, 342
Fuller's Carbon works, 411
Furnace, A granular-carbon electric, by S. A. Tucker, 143
Furnace, A new electrical, 353
Furnace, Annealing steel and melting non-ferrous metals in the electric, 134
Furnace control wiring, 294
Furnace operation, Costs in electric, 292
Furnaces, Electric, 50
Furnaces, Electric steel, by E. K. Scott, 45
Furnaces, Electrodes for electric: Their manufacture, properties, and utilisation, 245, 285, 309
Furnaces in France, Electric, 372
Furnaces, Leads for electric, by Prof. A. Lindstrom, 56
Fusing of an electric wire, The, 261
Future of industry, The, 458
Future of the electrical industry, The, by A. O. Holt, 460

GARRETT, Patent electric wagon, The, 100
Gas and electricity, Co-operation between, 474
Gas-driven car, 386, 520
Gas engine record, A, 264
Gas engines in U.S., Large, 135
Gas firing boilers, by T. M. Hunter, 509, 549, 576, 609
Gas firing, Combined coal and coke oven, 199
Gas heating, Exit, 568
Gas in Italy, Natural, 257
Gas lighting, Dangers of, 328
Gas, The Ministry of Munitions and, 112
Gas topics, 232
Gas Traction Committee, 543
Gauze, Standardisation of petrol, 490
Gerard's disclosures, Mr., 210
Generating plant in Italy, "Natural Steam," Electric, 542
German aeroplanes, Wireless transmitting stations on, 607
German cable factory, New, 468
German central station tariffs, 500
German central stations, Supplies for, 404
German coal shortage, Causes of, 448
German company for ship installations, 538
German design on Russian trade, 442
German economic organisation, 454
German economy in lubrication, 540
German electrical plant, Failure at Sydney, 159
German enterprise in Switzerland, 329
German industrial activity in Spain, 276
German ship installations, 468
German wire lamp trade, The, 26
Germany and raw materials for after-war trade, 305
Germany, Electricity supply restrictions and prices, 266
Germany, Government shareholding in, 362
Germany, National works in, 602
Germany, The fixation of nitrogen in, 14
Germany, Wire lamp patents in, 89
Glassware, Packing, 336
Goods clearing house for railways, A, 521
Government and foreign trade, The, 581, 606
Government control of trade in war-time, 410
Government purposes, For, 233
Government shareholding in Germany, 362
Graphite in Madagascar, 541
Guarantee of work scheme of the E.C.A., The, 520
Guatemala, The trade of, 300

HACKNEY carbon contract, 301
Hackney case, The, 601
Hail net, Marcillac, 94
Halifax Corporation electricity works, 147
Health, Ministry of, 520
Heat engines, by Capt. H. Riall Sankey, 560
Heated beds, Electrically, 594
Heating by electricity, Water, by W. J. Wilson, 567
Heating, Economies effected by electricity in industrial, 89
Heating problems, Domestic, 477, 485
High-tension magneto, The, by A. P. Young, 310, 333, 381, 405, 429
High-tension meter, A new, 270
Holidays on the Clyde, 63
Holland, Imports of, 23
Hospital installation, 63
Hotels, The engineering plant in large, 367
Hydro-carbon vapours by electricity, Cracking, 500
Hydro-electric generators on test, Artificially loading, 24
Hydro-electric power in New Zealand, 305

IMPEDANCE of steel rails, 200
Import restrictions, Electrical, 112
Imports of electrical goods during May and June, 1917, Exports and, 101; July, August, and September, 429
Imports of Holland, 23
Incandescent lamps, Modern arc lamps and, 531, 556
Incorporated Municipal Electrical Association and electricity supply re-organisation, 123, 129
Incorporated Municipal Electrical Association, Annual meeting, 5; Electric Vehicle Committee's Annual Report, 8
Incorporated Municipal Electrical Association and station engineers, 543
India, Congress of electrical engineers in, 41
India, Prospects of electrical engineers in, 592
India, Trade statistics of, 47
Induction, Death by, 20
Inductive and electrostatic troubles arising from A.C. railways, 388
Industrial Bank, Proposed, 612
Industrial combination, 424
Industrial conditions of to-day, by "Outsider," 557
Industrial development and research in South Africa, 303
Industrial information, The importance of, 337
Industrial League, A new, 80, 117, 330
Industrial mistrust, 73
Industrial reconstruction, 1, 122, 160, 171, 176, 353, 473
Industrial Reconstruction Council, 596
Industrial research, 218
Industrial research, Scientific and, 226, 263
Industrial training college, An, 87
Industrial unrest, Justifiable, by G. B. Barham, 607
Industrial unrest, The evening Press and, 256
Industrial unrest, The Whitley Report and, 378
Industry and Education, 304
Industry, Indian bank for, 472
Industry, The kinema and, 555
Industry, The French electrical, 38
Industry, The future of, 458
Industry, The future of the electrical, by A. O. Holt, 460
Industry, The Russian Government and, 241
Information, The importance of industrial, 337
Inland water traffic, 185, 569
Inquiries, 63, 209, 354, 401, 424, 494, 543, 569
Institute for discoveries and inventions, An, 385

INSTITUTION AND LECTURE NOTES—
Aeronautical Institute of Great Britain, 329
American Institute of Electrical Engineers, 16
Association of Engineering and Shipbuilding Draughtsmen: London Branch, 377
Association of Mining Electrical Engineers, 377, 425, 495, 542, 617
Association of Supervising Electricians, 282
Belfast Association of Engineers, 401
Birmingham Electric Club, 495
Canadian Electrical Association, 39
Chadwick Public Lectures (Leicester), 495, 522, 542
Diesel Engine Users' Association, 90, 425, 542
Electrical Association of Australia (N.S.W. section), 282
Faraday Society, 353, 593
Greenock Electrical Society, 401, 447
Illuminating Engineering Society (U.S.A.), 90
Institute of Marine Engineers (Incorporated), 542
Institute of Metals, 16, 233, 522
Institution of Civil Engineers, 543
Institution of Electrical Engineers, 16, 401, 425, 472
Institution of Electrical Engineers, Birmingham Local Section, 425; Western Local Section, 447, 473; Scottish Local Section, 447; Manchester Local Section, 447, 495; Newcastle Local Section, 568, 616
Institution of Engineers and Shipbuilders in Scotland, 401
Institution of Mechanical Engineers, 447, 495, 593
Iron and Steel Institute, 210
Junior Institution of Engineers, 233, 447
Keighley Association of Engineers, 522
Liverpool Engineering Society, 495
Manchester Association of Engineers, 401
Physical Society of London, 495, 522
Röntgen Society, 447
Royal Institution of Great Britain, 495, 568, 593, 616
Royal Society, 447, 542
Royal Society of Arts, 16, 473, 495
Société Internationale des Electriciens, 16
Society for Electrical Development, 39, 424
Society of Engineers, 90
South African Institution of Engineers, 160, 186, 282
South Australian Institute of Engineers, 282
Textile Congress, 425

Institution of Electrical Engineers, The, 457
Institution of Electrical Engineers and current topics, 506
Institution of Electrical Engineers and the Non-ferrous Metals Bill, 592
Institution of Electrical Engineers' discussion on the metric system, 494
Institution of Electrical Engineers, Newcastle Local Section, Chairman's address, 509
Institution of Electrical Engineers, Presidential address, by Mr. C. H. Wordingham, 478, 501, 527
Institution of Electricity Supply Engineers, An, 489, 519, 543
Insulating cloth, Abbott, 483
Insulating material, A new, 116, 160
Insulation testing set, An approximate method of checking the accuracy of a direct reading, by G. W. Stubbings, 315
Insulators, Cleaning, 87
Insull, Tribute to Samuel, 185
Insurance of electrical machinery, by C. Stuart Buyers, 580, 605
Insurance (Unemployment) Acts, 1911 to 1916, National, Decisions by the umpire, 14, 63, 111, 136, 185, 256, 353, 519, 593
Inter-connection of electricity works, Economy in coal consumption and, 15
Inter-connection in Lancashire and Cheshire, Electrical, 145, 169
Inter-connection of the Lancashire and Cheshire electricity supply systems, Second report of the committee for the, 151, 189
Interpole machines, The examination of commutation conditions of, by F. Murgatroyd, 173
Inventions, An institute for discoveries and, 385
Irish industry, The production and distribution of power and its influence on the development of, by J. F. Crowley, 174
Irish peat deposits, 96
Iron and steel trade combination, 586
Iron for commercial use, Electrolytic, 321
Iron ores, Electric smelting of, 125, 329
Iron wire for rural transmission, 63
Italian markets, Openings in, 107
Italy, 348
Italy, British trade with, 468
Italy, Electric steel in, 408
Italy, Hints to traders with, 210
Italy, Natural gas in, 257
Italy, Trade with, 159, 491

JACKS for tramcar accidents, 521
Jamaica, Electrical affairs in, 300
Japan, Research in, 264
Japanese copper, 16
Japanese development, 252, 371
Japanese electrical deputation to Australia, 467
Japanese electrical imports to China, 60
Japan's progress in the electrical industry, by M. Chalmers, 124

KINEMA and industry, The, 555
Kitchens, Electrical cooking as applied to large, 597, 621
Krupp's power station, Explosion at, 617

LABOUR, Dilution of, 160
Labour, Munitions and, 185
Labour troubles, New South Wales, 521
Lady electrician, A, 304
Lamp patents in Germany, Wire, 89
Lamp prices in Germany, 420
Lamp, The filiform crystal and its use in the glow, 540
Lamp tops, Old, 282
Lamp trade, The German wire, 26
Lamp with renewable filament, 497
Lamps in Austria, Drawn wire, 467
Lamps in South Africa, Scarcity of, 348
Lamps, Magneto flash, 390
Lamps, Modern arc lamps and incandescent, 531, 556
Lancashire and Cheshire, Electrical inter-connection in, 145, 169, 401
Lancashire and Cheshire electricity supply systems, Second report of the committee for the inter-connection of the, 151, 189, 215
Lead: Ministry of Munitions Order, 256
Leads for electric furnaces, by Prof. A. Lindstrom, 56
League, A new industrial, 80, 117
Leclanché cell, A substitute for the, 540

LEGAL—
Abraham v. Allied Manufacturers Guild, 455
Alleged unlawful possession, 154
Bessant v. Stevens, 587
Birmingham Railway Carriage and Wagon Co. v. Round, 512
Block v. Star Motor and Cycle Co., 35
Bosch magneto patents, 396, 494
Breaking arc lamps, 567
Cape Town cases, 282, 370
Centrifugal fans, Patent revoked, 16
Colliery electrician fined, 154
Controlled firm summoned by Manchester Corporation, 35
Damaging electric lamps, 418
Dangerous mischief, 424
Defective portable lamp, 155
Dundalk prosecutions, 282, 370
E.S. Co. v. Tredegars, 81
Electric corrosion of telephone cable, 513
Electric lamp stealing from trains, 424
Electric lighting and the value of house property, 504
Electric lighting of Chipping Norton, 9
Electrical engineer's certificate, 465
Electrical installations, 568
Electricity works fatality, Compensation, 82
Electrolytic corrosion of telephone cable, 465
Ferguson v. Isler, 61
G.E. Co. & the British G.E.C. v. J. Ossaiva & Co., 154
Gas Light & Coke Co., v. Hackney B.C., 59, 82, 103, 536, 561, 609
Glasgow Corporation electrical employés arbitration case, 312
Hall v. Pordes, 465
Hendon Electric Supply v. Banks, 537
Holt v. A.E.G. Electrical Co., 370, 542, 561
Jeffery v. W. Lund & Sons, 111
Kensington & Knightsbridge E.L. Co. v. Notting Hill E.L. Co., 58, 329, 346, 610
Kent v. Liverpool Corporation, 418
Leaving certificates, 83
Liability for samples, 282
Lighting restrictions, 16, 305, 588
Loose switches, 557
McErlean v. Johnston, 103
Marconi appeal, 513
Metropolitan Electric Tramway Co. sued, 16

LEGAL—*continued.*
Metropolitan Water Board v. Dick Kerr & Co., 418, 513
Newcastle-on-Tyne Corporation v Marshall, 587
Newcastle-on-Tyne Corporation v. Slater, 588
New Zealand compensation case, 397
Osram Robertson Lamp Works v. Pope's Electric Lamp Co., 402; Appeal allowed, 417, 593, 610
Price v. Hook, 232
Priest v. Westminster Corporation, 57
Refusal to grant a leaving certificate, 154
Ryan v. L.C.C., 57
Sandorides v. Franco-British Electrical Co., 81
Société Electricite de Paris v. Adam Bromley & Son, 418
Soldiers' tram fares, 561, 588
South London Electric Supply Corporation v. C. A. Burbrook, 155
South London Electric Supply Corporation v. L. Bowman, 155
Speed of an electric motor vehicle, The, 587
Stealing electric fittings, 88, 232
Stealing lamps, Charge for, 404
Stealing tramcar lamps, 521
Stolen club funds, 425
Tampering with the electric lighting slot meters, 282
Taylor & Co., 537
Theft of a motor: A remarkable defence, 304
Tramcar passenger's interference, 346
Tramcar fatality claim, 537
Tramway collision claim, 561
West Ham Corporation v. Barnett and Wood, 35
Wireless engineer's action, 371
Women tramway employés assaulted, 328
Workmen's compensation cases, 370

Liberty bonds, 65
Libraries, Technical and commercial, 448
Lighting and engine starting set, The Rhodes Firth combined, 453

LIGHTING AND POWER NOTES—
Aberdeen, 36, 229, 325
Accrington, 253, 277, 372, 421, 444, 516
Acton, 398, 491
Alva, 277
Argentina, 108, 207, 253, 372, 421
Ashton-under-Lyne, 84, 491, 589
Atherton, 564
Australia, 12, 84, 108, 157, 181, 253, 301, 398, 444, 468, 491, 516
Bacup, 157, 325
Ballymoney, 564
Barnes, 491
Barnsley, 372
Barrow, 12, 108, 372, 538
Bath, 108, 132, 612
Batley, 108, 131, 277, 516, 564
Basingstoke, 349
Beckenham, 589
Bedford, 421, 589
Belfast, 12, 468, 589
Belturbet (Co. Cavan), 421, 491
Bermondsey, 36
Bethnal Green, 326
Bettwsycoed, 469
Bexhill-on-Sea, 12, 589
Birkenhead, 36, 372, 564
Birmingham, 108, 372, 469
Blackburn, 516, 538, 564
Blackpool, 325, 372, 398
Bolton, 229, 253, 325, 398
Bootle, 253, 444, 564
Bournemouth, 108, 325
Bradford, 36, 61, 108, 132, 253, 325, 349, 372, 398, 421, 444, 491
Brandon (N. Devon), 469
Braintree, 349, 538
Bray (Co. Wicklow), 301
Brighouse, 203
Brighton, 12, 84, 421
Brimington, 491, 589
Bristol, 108, 398, 444, 516
Burmah, 372
Burnley, 12, 36, 131, 207, 321, 444
Burton-on-Trent, 444, 469, 564
Bury, 36, 301
Bury St. Edmunds, 61
Buxton, 277
Calder Valley (Yorks), 538
Canada, 61, 132, 157, 181, 229, 444, 469, 613
Cardiff, 229
Carlisle, 277, 444, 589
Castlerea (Co. Roscommon), 326
Cavan, 301, 372, 564
Chatham, 326
Chelmsford, 469
Chester, 12
Chesterfield, 469
Chile, 372
China, 84, 326
Clayton, 469, 516, 564
Cleckheaton, 538
Clones, 132
Coal economy, 349
Colchester, 157, 372, 589
Colne, 229, 538, 589
Continental, 12, 36, 61, 85, 132, 157, 182, 229, 277, 301, 326, 349, 372, 421, 444, 576
Chippenham, 61
Crayford, 207
Crosby, 61
Croydon, 12, 108, 321
Darlington, 349, 589
Dartford, 36, 564
Darton, 61
Darwen, 85, 326, 538, 564
Deal, 491, 538
Deptford, 230
Derby, 108, 349, 469, 491, 538
Dewsbury, 277, 538
Donaghadee (Co. Down), 36
Doncaster, 253, 277, 469
Dover, 61, 253, 326
Dublin, 230, 372, 516, 564, 589, 613
Dukinfield, 538
Dundalk, 12
Dundee, 182, 491, 564
Ealing, 398
Eastbourne, 253
East Ham, 326, 613
Edinburgh, 108, 321, 444, 469, 516
Epsom, 326
Exeter, 61
Falkirk, 321
Farnham, 85
Faversham, 301, 469
Felixstowe, 564
Fife, 230
Finchley, 12, 182
Foleshill, 254
Fort William, 538
France, 12, 229, 372, 321
Gainsborough, 516
Germany, 36
Gillingham, 132, 254, 321
Glasgow, 230, 321, 589
Glossop, 589
Gloucester, 564
Grangemouth, 589
Grays, 36
Greaseborough, 61, 157, 444, 469
Great Harwood, 85, 182
Greater London, 421
Greenock, 398, 517
Grimsby, 590
Guiseley, 538
Hackney, 36, 326, 517, 589
Halifax, 61, 85, 182, 326, 349, 422, 444, 491
Hammersmith, 61, 207, 254, 492
Hampstead, 445
Harrogate, 157, 277
Haslingden, 326, 613
Hebden Bridge, 230, 444, 538
Heckmondwike, 36
Hereford, 157
Heston and Isleworth, 108
Heywood, 422
High Wycombe, 108, 538
Holmfirth, 445
Hornsey, 564
Hove, 132, 230, 277, 491
Hucknall Torkard, 61, 491
Huddersfield, 85, 469, 613
Hull, 538, 590
Ireland, 254
Ilford, 12, 108, 326
India, 85, 157, 301, 326, 372, 517
Ipswich, 349, 590
Ireland, 354
Islington, 109, 564
Italy, 12, 61, 230, 321, 516
Itchen, 61
Keighley, 277, 469, 538
Kendal, 590
Kensington, 12
Kidderminster, 613
Kilmarnock, 277
Kingston-on-Thames, 349, 445, 491
Kingston-upon-Hull, 108
Kirkburton, 349
Kirkby-in-Ashfield, 61
Kirkcaldy, 61, 85, 564
Kirkheaton, 326
Knottingley, 36
Lancaster, 539
Launceston, 254, 277, 301
Leatherhead, 469
Leeds, 132, 157, 254, 278, 349, 422, 445, 492, 538, 564
Leek, 108
Leicester, 538
Leith, 372
Lewes, 349, 445
Limerick, 372
Lincoln, 492
Littleborough, 564
Liverpool, 85, 349, 398, 564, 613
Llandudno, 182
London, 12, 36, 61, 85, 108, 157, 182, 207, 230, 254, 277, 326, 349, 373, 398, 422, 445, 469, 492, 517, 539, 564, 590
London County Council, 61, 108, 373, 469
London Electricity Supply Conference, 182
Londonderry, 85, 492
Loughborough, 565
Loughrea, 326
Lurgan, 565
Luton, 613
Lye, 278
Lynn, 492
Maidenhead, 12
Maidstone, 132, 230, 254
Manchester, 12, 157, 326, 422, 445, 469, 565, 613
Mansfield, 85
Marsden, 157, 350, 445
Marylebone, 157, 182, 445
Meltham, 109, 492
Menston, 565
Mexico, 230
Middleton, 12, 157
Monaghan, 565
Monasterevan (Co. Kildare), 301
Morocco, 373, 517
Mytholmroyd, 85, 182, 517
Nelson, 517, 565
Netherlands, 301
Newcastle (Co. Down), 12, 85
Newcastle-under-Lyme, 230, 350, 565
Newport (I. of W.), 301
Newport (Mon.), 132, 590
New Zealand, 157, 230, 373, 492, 517
Norden, 469
Northampton, 12
Norway, 301
Norwich, 85
Nottingham, 37, 469, 539
Nuneaton, 85, 30-, 398
Oban, 301
Oldham, 37, 254, 350, 396, 565
Perth, 12, 157
Peterborough, 157, 359, 469
Pinner, 278
Plymouth, 109, 254
Poplar, 85, 492
Portsmouth, 278
Portugal, 61
Preston, 326
Queensbury and Clayton, 132
Radcliffe, 182
Rathmines, 326, 590
Rawmarsh, 207
Rawtenstall, 517, 613
Rochdale, 85, 132, 254, 301, 399, 422, 445, 565
Rotherham, 37, 61, 85, 373, 445, 470, 492 517, 565
Roytor, 132
Russia, 326
St. Anne's, 37, 373, 470
St. Austell, 132
St. Helen's, 470, 492
St. Pancras, 278, 517
Salford, 278, 301, 422
Sandwich Islands, 470
Scarborough, 613
Scunthorpe, 12
Sheffield, 37, 157, 254, 350, 359, 470, 565
Shipley, 12, 231, 517
Shoreditch, 61
Slaithwaite, 470, 590
Sligo, 517, 590
South Africa, 12, 182, 301, 373, 517, 565
Southampton, 422, 565
Southend, 207, 278, 302, 399, 613
Southport, 62, 278, 492, 539
Southwark, 109
Spain, 12, 61, 85, 132, 157, 182, 230, 277, 349, 372, 517
Spenborough, 132, 445, 470
Stafford, 350, 445, 565
Stalybridge, 207; 326
Stepney, 349, 564
Stirling, 517
Stockbridge, 492
Stockton-on-Tees, 109
Stoke Newington, 61
Stoke-on-Trent, 62, 132, 326, 350, 539
Stowmarket, 37
Straits Settlements, 207
Stratford-on-Avon, 132, 231, 373, 492, 613
Stretford, 37, 373
Sunderland, 61, 157, 350, 539
Sutton (Surrey), 85, 109
Sutton-in-Ashfield, 62
Swansea, 37, 254, 350, 517, 613
Swindon, 132
Swinton and Pendlebury, 590
Tasmania, 132, 157, 492, 517
Taunton, 62
Templemore (Co. Tipperary), 326
Thornton, 37
Tipperary, 399
Todmorden, 109, 326, 373, 445
Tonbridge, 132, 302
Tunbridge Wells, 85, 132
Uckfield, 12
United States of America, 62, 109, 208, 373, 422, 470
Venezuela, 231
Wakefield, 373, 445
Wallasey, 565
Walsall, 37, 254, 302, 350, 470, 492, 565
Walthamstow, 37, 327
Warrington, 182, 565
Watford, 565
Wednesbury, 350
West Bromwich, 85, 109
West Ham, 85, 539
West Hartlepool, 254
West Yorks, 492
Weymouth, 278
Wharfedale, 302, 327, 350, 470
Whitehaven, 613
Whitworth, 158
Wigan, 206
Willesden, 85, 302, 517
Wimbledon, 133, 517
Winchester, 37
Windsor, 517, 590
Wolverhampton, 254, 350, 470, 565
Woolwich, 492
Worcester, 62, 350
Workington, 373
Wrexham, 231
York, 109, 445

Lighting fittings of steel, Low-priced, 135
Lighting plants, Portable electric, 356
Lighting restrictions in America, 592
Lighting set, A novel use for a motor-car, 617
Lighting specifications, Standard clauses for street, 273
Lightning storm, 257

LIQUIDATION NOTICES—
Akroyd & Marsland, 371
Anglo-Colonial Engineering Co., 181
Bosch Magneto Co., 36, 468
British Adding Machine Co., 36
British Continental Electricity Co., 349, 371, 398
British High-power Gas Engine Co., 589
Canadian British Engineering Co 131
Colston Electrical Works, 300
Edison Manufacturing Co., 589
Feld, Bros. & Co., 229
Globe Associated Cable and Telegraphic Services, 131
Goldschmidt, 421
Herbert (France), Alfred, 325
Invicta Engineer Co., 563, 589
Kingston & Co., 515, 563
Korting Bros., 84, 156, 491
Leitner Electrical Co., 107, 207
M. & G. Truck & Engineering Co., 325
Market Harborough and District Motor Traction Co., 36
Mea Magneto Co., 443
Morris & Witham, 563
Morris & Lister (London), 36
National Alloys, 589
National Provincial Electricity Corporation, 563, 612
Plutte, Scheele & Co., 84
Naylor Battery Co., 325
Prentice Wireless Train Control, 36
R. E. T. Construction Co., 468
Rose Automatic Target Co., 36
Rural Districts Electric Undertakings, 60, 207
Schall & Schall, 371
Steel's Electric and Engineering Co., 84, 443
Tackley, W. C., & Co., 612
Therol Foreign Patents Syndicate, 107
United Carborundum and Electrite Works, 421
Universal Cable Code (Parent) Co., 107
Universal Telephone and Electrical Co., 36, 371
Vaughan Engineering Works, 107
Worthington Pump Co., 349

Literary style, 554
Loan issue, A large American, 186
Localisation by drop of potential, Fault, by H. E. Blake, 172
Localising metal in the human body, 521
Locomotive for mines, A Manchurian, 520
Locomotives for the New York, New Haven, and Hartford Railroad, New, 526
Log of domestic electricity supply, A, 136
London Association of Foremen Engineers, 136
London County Council and munitions, The, 111
London County Council electrical contract conditions, 589
London County Council electrical employés, 375
London County Council stores contracts, 467
London County Council tramway results, by A. J. Lawson, 149
London County Council tramways, 146
London power station engineers, 246, 281, 305, 352
Long-distance duplex working central battery system, A, by R. L. Milburn, 461
Loom brake, Electric, 136
Low temperature electro-thermal processes, 11
Lubrication, German economy in, 540
Lumbermen for France, American, 281
Lumen, The, 386

MACHINERY, Insurance of electrical, by C. Stuart Buyers, 580, 605
Madagascar, Graphite in, 541
Magnet steel, A new permanent, 280
Magnetic separator pulleys, Some uses of, 125
Magnetic separators, Some uses of, 40, 125
Magnetic steel band drive, A, by F. L. Weston, 383
Magnetic testing for steel products, 365
Magneto flash lamps, 390
Magnetos for British users, British, 490
Magneto industry in France, The ignition, 194
Magneto, The high tension, by A. P. Young, 310, 333, 381, 405, 429
Magneto v. battery ignition for petrol motor vehicles, 383
Magnets, Permanent, by F. C. Kelly, 166
Mains work, Curiosities of early, by G. W. Stubbings, 293
Maintenance scheme, A new electric vehicle, 314
Malaya, Electrical machinery in British, 562
Manchester, The modernisation of Stuart Street generating station, 219
Manchester, Traffic congestion in, Report, 242, 248

Manchurian electric locomotive for mines, A, 520
Manganese dioxide in Canada, 216
Manufacturers, National Union of, 164
Manufacturers to combine, Board of Trade urges British 281
Marcillac hail net, 94
Marriott concrete pole, The, 40
Marylebone electricity department and the Electrical Trades Union, 63
Mechanical arms, 374
Melbourne, Wages increase at, 282
Mercury rectifiers for large outputs, 197
Mercury, The orbit of, 168
Metal in the human body, Localising, 521
Metal Industry Bill, The non-ferrous, 569, 593
Metallurgy, Swedish, 452
Metals, Allied control of, 473
Meter, A new high tension, 270
Meter accuracy on arc furnace loads, 543
Meter readings, Some suggestions for the prevention of mistakes in, 267
Meters with varying loads, Errors of registration of electricity, by G. W. Stubbings, 4
Metric system, Decimal coinage and the, 135, 155, 192, 280, 329, 377, 472, 480, 494, 529, 567, 582
Metric system, The, 582
Metropolitan power station engineers, 246, 281, 305, 352, 377
Mexican electrical taxes, 101
Milk, The electrical sterilisation of, 440
Miners' wages, 209
Mines, Electric traction in coal, 548
Mint report, Royal, 233
Mistrust, Industrial, 73
Morocco, Water power in, 526
Moscow electricity works, Peat fuel at, 135
Motor boats, Electrically controlled, 439, 473
Motive power from plant life, 375
Motor ambulances, Improved, 234
Motor 'buses, Road damage by, 209
Multiplexing in cable telegraphy, 165
Municipal Electrical Association and electricity supply reorganisation: The Incorporated, 123, 129
Municipal Electrical Association, Annual meeting, 5; Electric Vehicle Committee's annual report, 8
M.E.A. annual meeting: Why London? 74
Municipal Electrical Engineers in conference, South African, 281, 437
Municipal electricity undertakings, Office organisation in, by G. W. Stubbings, 462
Municipal engineering and public health, The effect of the war on, 447
Municipal trading: Our obligations to posterity, 400
Municipal Tramways Association and the Board of Trade Tramways Committee, 541
Municipal Tramways Association Conference, 191, 287, 397
Municipalities and electricity problems, 39
Munitions and Labour, 185
Munitions, The L.C.C. and, 111

NATION, The engineer and the, 122
National affairs, The position of the engineer in, 117
National electricity supply: A Board of Electricity Commissioners, 584
National Insurance (Unemployment) Acts, 1911 to 1916, Decisions by the Umpire, 14, 63, 111, 136, 185, 256, 353, 519, 593
National reconstruction, 495
National service for small engineering works, 541
National Union of Manufacturers, 164
"Natural Steam," Electric generating plant in Italy, 542

NEW COMPANIES—
Abrasives, 307
Agence Havas, 450
Argilla Aluminium Co., 187
Armorduct British Co., 546
Atherton, J. B. & J., 331
Automatic & Electric Furnaces, 258
Blackwall Engineer and Welding Works, 18
British Automobile Equipment Co., 583
British Glass Wool Co., 18
British Ignition Apparatus Association, 91
Brodmins, 138
Carpenter, C. A., 42
Chase, A., & Co., 187
Chemical Engineering and Wilton's Patent Furnace Co., 187
Clements, Jeakes & Co., 234
Corona Lamp Works, 354
Cosmos Lamp Works, 113
Donald, H. & E., 570
E. O. S. Engine, 307
Enterprise Manufacturing Co., 113
Etablissements de Dion Bouton Societe Anonyme, 138
Fleetway Press, 42
G. & S., 475

NEW COMPANIES—*continued.*
Grimsby Electric Vehicle Co., 187
Grosvenor Engineering Works, 378
Grove Engineering & Utilities, 42
Harris Plating Works, 161
Herbert, Alfred (Russia), 91
High-Speed Machinery Co., 161
Horton & Ellesmere Port District Electric Supply Co., 18
Inventions (Manchester), 595
Korting Bros. (1917), 90
Lincolnshire Motor & Electric Traction Co., 450
Lo-Thermo Patents, 450
Macfarlane Winch Co., 18
Marconi International Code Co., 161
National Union of Manufacturers (Incorporated), 91
Piggott Electrical Co., 138
Portable Electric Motors, 187
Rapid Electric Arc Welding and Engineering (Ireland) Co., 258
Rotasphere Co., 258
Rustless Iron (Cowper-Coles Process), 475
Staveley Electric Supply Co., 498
Surbiton Contract Co., 595
Supply Association Among Metallurgists and Machine Makers, 450
Taylor, S. T., & Sons, 138
Taylor & Co. (Hatton Garden), 475
Voltalite, 113
W. & D. Conveyor Engineering Co., 498
Watercraft Detachable Power Installations, 234
Watson, T. B., & Sons, 331
Wedmore Engineering Co., 113.
Wholesale Battery Co., 258

NEW ELECTRICAL DEVICES, FITTINGS AND PLANT—
Accumulator plate separator, New, 296
Adamant electric pipe-lighter, 120
Armature winding, A new method of, 225
Armature winding machine, 179
Arora fire, A large, 272
Autofrigor small refrigerating machine, 296
Balancing machine, Dynamic, 179
B.T.H. direct-current motors, 322
B.T.H. ironclad switchgear, 79
B.T.H. oil-break switch, 407
B.T.H. truck-type switchgear, 248
C.A.V. electric starter, 367
Cable pulling eye, 178
Condensing plant, Cole, Marchent and Morley, 417
Diffusa reflector fitting, 79
Disconnectors and gate end boxes, 366
Donovan wall socket and plug, 119
Drying fruit and vegetables by warm air from turbo-alternators, 417
Electrometer, A highly sensitive, 296
Electroscope exciter, 79
Elevators, Bennis portable, 512
Ellison's industrial switchgear and limit switches, 271
Furnace, A new high-frequency induction, 486
Furnace for high temperatures, Electric, 31
Generator of static electricity, A new, 272
Gravity cell with small local action, 129
Halo reflector, 561
Husband oil engine sets, 486
Ladder, Motor cycle, 120
Lamp, Trench, 154
Lampholder, Sampson, Acid and waterproof, 512
Lock washer, A simple, 561
Magneto, A new British, 296
Pyrometer, Optical, 301
Rasindia Indian ink eraser, 154
Roller lock nut, 129
Rolling mill, Electrically driven, 247
Screwdriver attachment for cutting pliers, 407
Signals, Benjamin industrial, 247
Soldering iron, A novel, 129
Stansiphon, The, 296
Starting rotary converters, 32
Stell's cable fault-finding apparatus 367
Submarine camera, Electric, 32
Teagle ignition magneto, 200
Telephone battery economiser, 120
Temperature indicators for electrical apparatus, 178
Time checking, Improved method of, 225
Transformers, Johnson & Phillips, New, 486
Vislok lock nut, 224
Willard accumulator plate separator, 323

New South Wales labour troubles, 521
New York, Newhaven & Hartford railroad, New locomotives for the, 526
New Zealand, An exhibition in, 420
New Zealand, Hydro-electric power in, 305
New Zealand, Prospects in: Mr. Dalton's report, 242, 262
New Zealand trade, 323
Nichrome constantan, The thermo-couple, 127
Nitrate of ammonia by electric power at coke-oven plants, The manufacture of, by E. K. Scott, 238
Nitrates by electric power, Manufacture of synthetic, by E. K. Scott, 93
Nitrates in the United States, The production of, 353
Nitrogen in Germany, The fixation of, 14
Nitrogen problem, The, 535
Nitrogen, The fixation of atmospheric, 16, 63, 340, 365, 387
Nitrolim, 280
Nobel prizes, The, 497
Norwegian carbon factory, New, 456

OBITUARY—
Arkwright, B. G., 354
Bakker, A. J., 523
Bignell, W. K. D'Oyley, 426
Birkland, Prof. K., 17
Brocklebank, R., 378
Chance, A. M., 423
Cummings, J. F., ???
Davenport, W., 234
Dorman, C. M., 306
Duddell, W. du Bois, 449, 475
Fanshawe, H. A. Wrottesley, 402
Heinrich, Herr R. O., 378
Hesketh, J., 331
Johnson, E. H., 331
Johnson, W., 594
Kirkham, J. J., 402
Longridge, Mrs. M., 402
Lorrain, J. G., 234
Matheson, E., 594
Merryweather, J. C., 523
Milburn, Sir C. S., 90
Miles, Ald. J., 42
Mitchell, Sen., T., 283
Moseley, A., 90
Noble, W., 449
Partington, W. K., 523
Patchett, F., 66
Roeber, E. F., 523
Robson, W., 306
Rowland, R., 90
Salter, Ald. G., 234
Saunders, E., 594
Stell, J., 475
Stork, W., 523
Sykes, W. R., 378
Tissot, Commandant C., 475
Tongue, J. E., 283
Turrettini, T., 187
White, A., 234
Wilson, A., 306
Woodhead, Mr., 475

Off-peak loads, 74

OFFICIAL RETURNS—
Ackroyd & Best, 187
African Direct Telegraph Co., 42
Altrincham Electric Supply, 187
Anchor Cable Co., 235
Anderson, D., & Co., 187
Anglo-Portuguese Telephone Co., 187
Bastian Electric Co., 523
Bat Meter Co., 379
Birmingham & District Power and Traction Co., 378
Blackburn, Starliag & Co., 571
Bombay Electric Supply & Tramway Co., 450
Bournemouth & Poole Electricity Supply Co., 211
Bray, Markham & Reiss, 235
Brecknell, Munro & Rogers, 570
British Electric & Manufacturing Co., 283
British Electric Tanning Syndicate, 258
British Miniature Electric Vehicles, 331
British Thomson-Houston Co., 235
Brush Electric Engineering Co., 187
Burt, Escare & Denelle, 235, 331
Cannon, W. G., & Sons, 18
Carrickmacross Lighting Co., 18
Chile Telephone Co., 258
Chislehurst Electric Supply, 18
Clevedon, Portishead & District Electric Supply Co., 283
Consolidated Electrical Co., 258
Contraflo Condenser & Kinetic Air Pump Co., 18
Creed & Co., 378
Cutting Bros., 18, 546
D. P. Battery Co., 283
Danks, A., 307, 523
Davis, J., & Son, 258
Direct West India Cable Co., 450
Dublin United Tramway Co., 450
Dublin Electric Tramways Co., 450
Electric & General Investment Co., 283
Electric Construction Co., 283
Electric Holdings, 258
Electric Supply Corporation, 450
Electrical Contracts & Maintenance Co., 18, 42
Electrical Engineering & Equipment Co., 283
Enterprise Manufacturing Co., 161
Europe & Azores Telegraph Co., 161
Evershed & Vignoles, 283
Exchange Telegraph Co., 450
Fors Accumulator Foreign Patents, 450
Foster Construction Co., 283, 331
Gambrell Bros., 546
Gardham, H. H., & Co., 450
Gavan Inrig, 450
General Cable Manufacturing Co., 379, 498

OFFICIAL RETURNS—*continued.*
General Electric Co., 307
Gorseinon Electric Light Co., 283
Glantawe Electric Supply Co., 187
Hackbridge Cable Co., 571
Harold Wood Electrical & Engineering Supplies Co., 354
Hulett, D., & Co., 307
Isle of Thanet Electric Tramways, 475
Keith & Blackman, J., Co., 523, 546
Lamplough & Sons, 138
Lancashire Electrical Engineering Co., 235, 283
Llangollen & District Electric Light and Power Co., 379, 450
Mander & Co., 138
Metropolitan Electric Supply Co., 18
Milton Manufacturing Co., 450
Notable Electric Co., 379
Oriental Telephone & Electric Co., 595
Rapid Distillation & Power Co., 595
Reyrolle, A., & Co., 258
Rural Electricity Supply, 354
Secar, Scott & Co., 258
South Metropolitan Light & Power Co., 91
Smith, W. F., & Co. (1917), 258
Spensers, 211
Stuart Turner, 187
Suffolk Electricity Supply Co., 354
Telegraph Manufacturing Co. (Colonial), 211
Telephone Co. of Egypt, 595
Thomas Pritchard, 187
Torquay Tramways Co., 378
Tudor Manufacturing Co., 211
Tyne Electric Steel Foundries, 91
United Electric Tramways of Monte Video, 235
United River Plate Telephone Co., 235
Veritys, 42
Wakelin, A. J., 235
Walter's Electrical Manufacturing Co., 187, 235
Western Electric Co., 235
Westinghouse Metal Filament Lamp Co., 235
White, Jacoby & Co., 161, 258
William Taylor Electric Lamp Co., 287
Wright & Wood, 211, 283, 571

Office organisation in municipal electricity undertakings, by G. W. Stubbings, 461
One-man light-weight safety car, The, 506
Optics, Instruction in technical, 352
Ores, Electric smelting of titaniferous iron, 39
Organisation, Electricity supply, 614
Organisation, Employers', 434
Organisation in electricity supply undertakings, Staff, 27
Organisation in electricity works, Some notes on staff, 150
Organisation of power station engineers, 305
Organisation, Research, by D. Ross Kennedy, 435
Oscillator, The pliotron, 269
Oxygen, Danger of compressed, 15

PACKING glassware, 336
Packing scientific instruments, 467
Paris tramways & war troubles, 285
Parliamentary, 63, 135, 473, 494, 527, 552
Patent application, 421, 545
Patent law, 95, 448
Patent revoked, A steel, 598
Patent upheld, Validity of tungsten wire (German), 375
Patents and alien enemies, 185, 305, 375
Patents and published specifications, New, 24, 48, 72, 96, 120, 144, 168, 192, 216, 240, 284, 288, 312, 336, 360, 384, 408, 432, 456, 480, 504, 528, 552, 576, 600, 624
Patents, Colliery signalling, 519
Peace, Rathenau and an enduring, 569
Peat and electrical power, Irish, 40, 112
Peat fuel at Moscow electricity works, 135
Permanent magnets, by F. C. Kelley, 166
Perth electricity employés' wages award, 377
Peru, Import trade of, 228
Petrol, Electrochemically produced, 136
Phase rotation, Determining, by W. V. Lyon, 71
Photoelectric sensibility, 15
Physikalisch-technische Reichsanstalt, Charlottenburg, in 1916, Electrical work at the, 391
Pickling of steel, The electrolytic, 136
Pig iron from Midland ore, Basic, 597
Plant life, Motive power from, 375
Platinum, The supply of, 111
Platinum, 221
Pliotron oscillator, The, 269
Pole holes, Saving labour on, 89
Pole, The Marriott concrete, 40
Poles for transmission cables, Reinforced concrete, by A. V. Chitty, 608
Porcelain pyrometer tubes, 136

Portable electric lamp cooking box, A, 443
Portable electric lighting plants, 356
Post Office tube railway, 543
Postal vans in Switzerland, Electric, 615
Power, A new, 28
Power at coke-oven plants, The manufacture of nitrate of ammonia by electric, by E. Kilburn Scott, 288
Power and its influence on the development of Irish industry, The production and distribution of, by J. F. Crowley, 174
Power for steel mills, Electric, 202
Power generation by gas, Electric, by E. W. Smith, 95
Power-house shift work: An ex-shiftman's reflections, The pyschology of, by A. Arnold, 69
Power, £100,000,000 a year from State, 484
Power plants, Thoughtlessness in, 159
Power sources of American electric railways, 233
Power station engineers, London, 246, 305, 362, 377
Power supply data, Tyneside, 353
Power supply, Electric, 64
Power, Water supplies as sources of, by C. H. Roberts, 560
Presses, Electrically-heated moulding, 64
Prices for electrical energy, War, 316
Prime movers, The working costs of the principal, by O. Wans, 391
Private arrangements, 156
Prize essay, 375
Problems, Municipalities and electricity, 39
Profit sharing, 232
Profits Duty, Excess, 64
Protected trade certificates, 290
Publicity and trade development, 242
Publicity, Engineering, by D. Ross Kennedy, 243
Pulleys, Some uses of magnetic separator, 125
Pulverised form, The utilisation of undeveloped fuels in, 342
Pyschology of power-house shift work: An ex-shiftman's reflections, by A. Arnold, 69
Pyrometer tubes, Porcelain, 136
Pyrometers and pyrometry, 533, 574

RAILS, Impedance of steel, 200
Railway electrification in S. Africa, 308
Railway electrification results, 199

RAILWAY NOTES—
Argentina, 493
Australia, 255, 399, 470
Brazil, 470
Canada, 13
Central London Railway, 493
Continental, 100, 278, 302, 350, 373, 493, 518, 566
Edge Hill light railways, 399
India, 493
Italy, 302, 493
Liverpool-Southport Railway, 278
L. & Y. Rly. electrification, 62
London, 493
Peru, 231
South Africa, 37
Spain, 278, 350, 373, 518
Swiss railway electrification, 169, 212, 565
Sydney City Railway, 231
United States, 86, 183, 471
Venezuela, 302

Railways and electric traction, Swiss, 578
Railway, The Spring Lake Marine, 196
Railways, Inductive and electrostatic troubles arising from a.c., 388
Ramsay memorial, The, 592
Rain making in Australia, Electrical, 295, 447, 520
Rathenau and an enduring peace, 569
Rats, 65
Raw materials and the Whitley Report, 562
Reasonable recruiting, 122
Reconstruction, 424
Reconstruction and trade policy, 520
Reconstruction Council, Industrial, 586
Reconstruction, Industrial, 1, 122, 160, 171, 176, 353, 473
Reconstruction, Machinery for the work of, 554
Reconstruction, National, 495
Reconstruction, Problems of, 473
Rectifiers for large outputs, Mercury, 197
Rectification of high-tension currents, Air-blast, 101
Registration of electricity meters with varying loads, Errors of, by G. W. Stubbings, 4
Report of the Committee for the Interconnection of the Lancashire and Cheshire electricity supply systems, Second, 151, 189, 215
Research, Industrial, 218
Research in Japan, 264
Research organisation, by D. Ross Kennedy, 435
Research, Scientific and industrial, 226, 263
Resuscitation after electric shock, 68
Revamping the central station, 280

REVIEWS—
Aims and Achievements, Report of the Society for Electrical Development, 253
Alternating Currents, by C. E. Magnusson, 17
Apprentice Training, with special reference to the Engineering Industry, Principles of, by A. P. M. Fleming and J. G. Pearce, 33
British Standard Specification for Charging Plug and Socket for Vehicles Propelled by Electric Secondary Batteries, 468
C.C. Motors and Control Apparatus, by W. Perren Maycock, 277
Cycling Manual, 420
Driving of Machine Tools, The, by T. R. Shaw, 33
Electric Traction, by A. T. Dover, 205
Electrical Engineering Practice, by J. W. Meares, 167
Electrical Laboratory Course for Junior Students, by M. Maclean, 18
Engineers' Constants for the Slide Rule, Useful, 277
Farming by Motors, 60
First Course of Electric Light Switching, by W. Perren Maycock, 468
High-speed Internal-combustion Engines, by A. W. Judge, 276
Hydro-electric Power, Volume I, Hydraulic development and equipment, by Lamar Lyndon, 432
Hydro-electric Power, Volume II, Electrical Equipment and Transmission, by Lamar Lyndon, 544
Industrial Research in the United States, by A. P. M. Fleming, 35
Inspection of Screw Gauges for Munitions of War, by H. J. Bingham Powell, 563
International Mercantile Diary and Year Book, 1918, by A. M. Pooley, 612
Laws of Physical Science, by E. F. Northrup, 545
Lloyd's Diagram of Calculations, by H. G. Lloyd, 490
Magnetism and Electricity, Advanced Textbook of, by R. W. Hutchinson, 335
Manual of Electrical Undertakings 1917-18, by E. Garke, 612
Mechanical Engineers' Pocket Book, The, by R. T. Kent, 33
Practical Costing, by A. H. Gledhill, 275
Practical Electricity for Vocational Schools and Shop Classes, A Laboratory Course in, by M. J. Archbold, 18
Predetermination of Prices, by F. A. Parkhurst, 431
Preliminary Mathematics, by Prof. F. E. Austin, 107
Primary Batteries, Their Construction and Use, by W. R. Cooper, 142
Principles and Practice of Electrical Engineering, by A. Gray, 544
Range of Electric Searchlight Projectors, by J. Rex, 167
Spon's Electrical Pocket Book, by W. H. Molesworth, 544
Terms of Industrial Peace, by A. Ramsay, 443
Telephone Troubles, by W. H. Hyde, 589
Turret Lathe Tools, How to Lay Out, by A. Herbert, Ltd., 275
Underground Transmission and Distribution for Electric Light and Power, 275
Year Book of Wireless Telegraphy and Telephony, 1917, 141

Rhodes-Firth combined lighting and engine-starting set, 453
Road damage by motor buses, 209
Rôle of the engineer, The, 98
Roll of honour, 16, 41, 65, 90, 113, 138, 161, 187, 210, 234, 258, 283, 306, 330, 354, 379, 402, 427, 449, 474, 496, 522, 545, 570, 594, 618
Romance of electrical work, by A. Arnold, 508
Röntgen Society, The, 525
Rubber compound cables, Some practical experiences with tough, by W. Ellerd-Styles, 291
Rule of the footpath, The, by J. Dalrymple, 298
Russia, After the war electrical problems in, 317
Russia: From whatever source available, Trade with, 97
Russia, The 1886 Company: Strange development, 206
Russian electricity prices, Application for increase, 111
Russian electricity supply, 543
Russian Electro-Technical Institute, 65
Russian Government and electrical industry, The, 241
Russian grant for coal-saving electric plant, 304
Russian prices for electrical energy: Increase authorised, 305
Russian trade, German design on, 443
Rust by electrolysis, Removing, 186

SALARIES and wages in electricity supply, 481
Salaries of central-station officials, by G. W. Stubbings, 484
Scarcity of electrical goods in South Africa, 371
Science and industry in South Africa, 356
Science and the Civil Service, 520
Scientific and industrial research, 226, 263
Scientific and Industrial Research, Department of, 88
Scientific instruments, Packing, 467
Scientific research, 65
Scottish Local Authorities and B.O.T. Electricity Committee, 473
Seminary, A well-equipped, 186
Sensibility, Photoelectric, 15
Separator pulleys, Some uses of magnetic, 125
Separators, Some uses of magnetic, 40, 125
Sheffield, Electric vehicles in, by J. A. Priestley, 55, 118
Ship, Electricity supply on board, 111
Ship installations, German, 468
Ship installations, German company for, 538
Ship propulsion, Electrical, 496
Shock, Resuscitation after electric, 68
Should the chief concern himself with detail? by "Rover," 525
Siam, 562
Siam, Electric vehicles in, 304
Signal service officer cadets, A hut for, 616
Signalling patents, Colliery, 519
Signalling, Synchronous, 64
Signals for constables, Electric, 256
Silica, Fused, 328
Six-hour day, The, 474
Small engineering works, National service for, 541
Smelting of iron ores, Electric, 125, 329
Smelting of titaniferous iron ores, Electric, 39
Solder, The use of formed, 497
"Some Engineer," 257
South Africa, Industrial development in, 303
South African Municipal Electrical Engineers in conference, 281, 437
South Africa municipal electrical undertakings, Union of, by E. Poole, 320, 357
South Africa, Scarcity of electrical goods in, 371
South Africa, Science and industry in, 356
South Africa, Trade in, 141
South Africa, Trade statistics of, 70
South African electrical market, 84, 207
South African trade, War effects on, 122
Spain, 348
Spain, Electrical enterprise in, 135
Spain, German industrial activity in, 276
Spain, Propaganda in, 74
Spain, The Industrial progress of, 135
Spain, Trade statistics of, 177, 420
Specialising and specialists, by "Tramp Royal," 315
Sports at Chelmsford, Charity, 209
Spring Lake Marine Railway, The, 196
Staffing engineering establishments after the war, The question of, 268
Staff organisation in electricity supply undertakings, 27
Staff organisation in electricity works, Some notes on, by G. W. Stubbings, 150
Standard clauses for street lighting specifications, 273
Standardisation in electricity supply in France, 38
Standardisation of petrol gauge, 490
Standards for electrical machinery, British, 424, 436
Starter for motor cars, The C.A.V. new electric, 305
State power, £100,000,000 a year from, 484
Station engineers and the I.M.E.A., 543
Station Engineers, Association of, 352, 377, 401, 425
Station engineers, Metropolitan power, 246, 281, 301, 305, 352, 377
Steel and melting non-ferrous metals in the electric furnace, Annealing, 134
Steel, Australian electric, 519
Steel-cored aluminium wire, 65
Steel, Electric, 137
Steel furnace on the Witwatersrand, An electric, 593
Steel hardening process, The Wild-Barfield, 88
Steel in Italy, Electric, 408
Steel, Low-priced lighting fittings of, 135
Steel manufacture in Denmark, Electric, 341
Steel patent revoked, A, 593
Steel products, 365
Steel mills, Electric power for, 202
Steel: The electrolytic pickling of, 136
Steel trolley wire, 176
Sterilisation of milk, The electrical, 440
Strike at Ballarat, 210
Stuart Street generating station, Manchester, The modernisation of, 219
Sub-stations and transformer houses, The theoretical consideration of the ventilation of, by T. H. Wood, 51
Summer load, A good, by "Research," 76
Summer time, 14
Super-electricity supply, 578
Super-tax on British trade with Australia, 348
Supply Engineers, Institution of Electricity, 489, 519
Swansea strike, A, 305
Sweden, Water-power in, 530
Swedish metallurgy, 452
Swedish trade in Canada, 12
Swiss railways and electric traction, 578
Switching, Electric light, 63, 88, 568
Switzerland, Coal shortage effects in, 352
Switzerland, German enterprise in, 329
Switzerland, Trade with, 349
Sydney, German electrical plant failure at, 159
Synchronous signalling, 64
System, 206

TAR oil fuel and Diesel engines, by G. Porter, 30, 105
Tar oil as fuel for Diesel engines, 280
Tariffs, German central-station, 500
Tariffs in the abstract, 27
Tariffs on electrical goods, Foreign and Colonial, 48, 144, 192, 240, 288, 336, 360, 384, 408, 600
Taxation on electrical energy in Russia, War, 541
Taxi-cabs in the U.S.A., Electric, 88
Technical and commercial libraries, 448

TELEGRAPH NOTES—
Argentina, 278, 374, 399, 423
Australia, 399, 423, 518
Australia-New Zealand telegraphs 208
Brazil, 62, 110, 493
Canada, 255, 303
China, 566
Damaging insulators, 158, 231, 566
Denmark, 231
Dutch cable blockade, 374
Dutch Indies, 566
Federated Malay States, 183
France and the United States, 539
German new service, 255
Halifax, 86
Holland, 399, 614
Italy, 231
Leeds wireless school, 208
Long-distance wireless, 518
Long telegraph circuit, A, 62
Mexico, 183
New cables, 423
New Zealand, 519, 613
Norway, 471
Norwegian wireless station, 231
Postal servants, 303
Portugal, 232
Poulsen wireless system, 614
Round the world in 16½ minutes, 110
Russia, 38, 518
Secret wireless station, 183
Secret wireless in Norway, 87
South Africa, 278
South America, 208, 539
Spain, 232, 591
Storm damage, 423, 518, 591
Submarine cable, A large, 374
Sweden, 233
Trans-Atlantic wireless communication, 133
United States, 183, 447, 493, 566
Windhuk (S.W. Africa Protectorate), 374
Women for wireless work, 591
Wireless operator, Brave, 86
Wireless record, A new, 133
Wireless schools, 303, 539
Wireless subterfuge, A, 471
Wireless telegraph school for Ireland, 518
Wireless telegraphy on board ship, 423
Wireless telegraphy on Zeppelins, 423

Telegraphy and telephony at the French front, 459

TELEPHONE NOTES—
Alien enemies and the telephone, 471
Argentina, 110, 423
Australia, 158, 399, 518
Brazil 62
Denmark, 231
Dewsbury, 374
Federated Malay States, 183
Foreign languages on the telephone, 62
Japan, 13, 327
Long-distance telephony, 566
New Zealand, 613
Postal servants, 303
Recruiting at 3,000 miles, 62
Restricted-hour telephony, 471
Spain, 110
Storm damage, 591
Telephone development of the world, 327
Telephone Directory, 232
Telephone time service in Switzerland, 446
Telephoning during air raids, 399
Telephonic reception of cable messages, 38

TELEPHONE NOTES—*continued.*
Telephoning from a moving train, 255
United States, 13, 493
Wireless telephony in the U.S. Navy, 63

Telephone receiver, Testing for troubles with a, 191
Temperature control system in the Charing Cross Hospital, The, 440
Tenders, Symbols for electrical, 89
Testing for steel products, Magnetic, 365
Testing for trouble with a telephone receiver, 191
Testing purposes, Balancer used for, 194
Testing set, An approximate method of checking the accuracy of a direct-reading insulation, by G. W. Stubbings, 815
Textile power costs, 179
Textile research, 85
Thermo couple nichrome constantan, The, 127
Thermo-electric effect by throttling, 496
Thermometry, 164
Three years, The war: After, 49
Thoughtlessness in power plants, 159
Time checking, 84
Time signals by electric lights, 127
Tin ores, Electrolytic smelting of, 16
Tires, Tramcar, 612
Tokio, Electrical exhibition at, 515
Tracing linen for bandages, 616
Traction in coal mines, Electric, 548
Traction motors, Notes on alternating-current, 196
Trade abroad, Co-operative, 433
Trade, Anglo-Italian, 563
Trade, Austria's future export, 468
Trade between the United Kingdom and Canada, 157
Trade certificates, Protected, 290
Trade, City business men and the control of, 397
Trade Commissioners, 194
Trade, Co-operation in export, 449
Trade development, Publicity and, 242
Trade, Foreign, 63, 159, 279, 375, 494, 591
Trade in Canada, 343
Trade in China, Electrical, 261
Trade in New Zealand, Mr. Dalton's report, 242, 262
Trade in South Africa, 141
Trade in the Transvaal, Electrical, 301
Trade in war-time, Government control of, 410
Trade intelligence, Foreign, 99
Trade inquiries, 207, 252, 300
Trade matters before Parliament, 542
Trade, New Zealand, 323
Trade of Guatemala, The, 300
Trade of Peru, Import, 228
Trade organisation, Empire: The Australian scheme, 447
Trade statistics of Egypt, 202
Trade statistics of India, 47
Trade statistics of South Africa, 70
Trade statistics of Spain, 177
Trade, New co-operative scheme to develop British export, 562
Trade, The Government and foreign, 581, 606
Trade, The state of, by "Commercial," 503
Trade, War effects on South African, 122
Trade with Australia, British and American electrical, 406
Trade with Canada, 159
Trade with Italy, 159, 491
Trade with Russia: From whatever source available, 97
Trade with Switzerland, 340
Trade with the British West Indies, 156
Trade with Venezuela, 467
Trading arrangements with Italy, 371
Traffic congestion in Manchester: Report, 248
Training apprentices for the electrical trades, 281
Training disabled men, 41
Training of engineers, The, 402, 410, 430
Training of engineers, Education and, by "Radix," 507, 532, 555, 562
Tramway allotment holders, 256
Tramway conundrum, A, 233
Tramway finance, 290
Tramway finance, by G. W. Holford, 297
Tramway labour and material, Control of, 474, 494
Tramway Managers, Metropolitan Association of Electric, 401

TRAMWAY NOTES—
Aberdeen, 254
Accrington, 133, 350, 539
Argentina, 278
Australia, 86, 133, 158, 302, 327, 470, 493
Barking, 109
Barrow-in-Furness, 518
Belfast, 13, 133, 182, 373, 422, 445
Bingley, 399
Birkenhead, 231
Birmingham, 373, 399, 445, 470, 493
Blackburn, 13, 255, 278, 470, 493
Blackpool, 62, 109, 208, 327, 399, 518, 613

TRAMWAY NOTES—*continued.*
Bolton, 182, 208
Bootle, 350
Bradford, 86, 133, 158, 208, 255, 278, 302, 399, 470, 518, 565
Brentford, 255
Brighouse, 302
Brighton, 182
Burnley, 13, 37, 133, 518
Bury, 373, 518
Canada, 62
Chester, 109
Clitheroe, 590
Constantinople, 470
Continental, 62, 86, 158, 278, 350, 399, 422, 470, 493, 613
Croydon, 422, 518
Dartford, 133
Darwen, 13, 86
Derby, 470
Dewsbury, 422
Doncaster, 158, 302, 327, 351
Dover, 182, 208, 373, 422
Droylsden, 278
Dudley, 445
Dunfermline, 182
East Ham, 327, 373, 613
Edinburgh, 182, 302
Farnworth, 278
Germany, 278
Glasgow, 133, 208, 255, 423, 470, 565, 590
Government tramway control, 518
Grimsby, 539
Halifax, 13, 62, 109, 133, 182, 302, 373, 539, 613
Haslingden, 327
Hebden Bridge, 327
Heywood, 37, 62
Hove, 327
Huddersfield, 86, 183, 399, 470, 613
Hull, 539, 613
Ilford, 13, 327
Ipswich, 208, 351
Irish electric tramway workers' wages, 37
Italy, 493
Keighley, 13, 109, 133, 539
Kingston-on-Thames, 231
Kirkcaldy, 86, 565
Lancashire, 231, 327, 399, 539, 565, 590, 613
Lancashire and Cheshire wages, 565
Leeds, 37, 86, 109, 133, 158, 208, 327, 373, 423, 518, 565, 613
Leicester, 110
Lewisham, 399
Liverpool, 399
London, 62, 110, 208, 278, 327, 351, 373, 399, 423, 445, 470, 518, 613
London County Council, 62, 110, 208, 278, 327, 351, 373, 399, 470, 590, 613
London United Tramways Co., 445
Londonderry, 86, 399
Lytham, 351
Manchester, 37, 62, 86, 158, 208, 255, 351, 423, 445, 518, 566
Mansfield, 351
Morecambe, 303
Musselburgh, 493
Nelson, 133, 351
Newcastle-on-Tyne, 37, 231, 303, 327, 531, 471, 539
Newport, 158, 591
New Zealand, 158, 351, 445
Northampton, 62
Nottingham, 208
Oldham, 133
Portugal, 86
Preston, 231
Ramsbottom, 470
Rawtenstall, 231, 278, 613
Reading, 470
Rochdale, 183, 566
Russia, 86
Salford, 303, 445
Salvador, 86
Sheerness, 13
Sheffield, 158, 255
Shelf, 470
Snowstorm in the West Riding, 613
South Africa, 86, 279
Southend-on-Sea, 86
South Lancashire, 133, 303
Stoke-on-Trent, 566
Spain, 62, 158, 278
Straits Settlements, 208
Sunderland, 351, 591
Swansea, 351
Swinton, 183
Switzerland, 62
Tramway workers and Christmas holiday, 493
Tynemouth, 86
United States, 255, 470
Wallasey, 279, 446
Walsall, 38, 351, 470
Warrington, 399
West Ham, 86, 303
West Riding holidays, 183
Weston-super-Mare, 591
Wharfedale, 493, 591
Wigan, 446, 539, 566, 591
Wolverhampton, 86, 110, 231, 446
York, 110

Tramway workers' wage awards, 216
Tramways and Light Railways Congress, 1917: Annual meeting, 3
Tramways and war troubles, Paris, 265
Tramways' Association Conference, Municipal, 191, 287, 290, 297
Tramways, The development of, by Coun. C. Raine, 298
Transmission, Iron wire for rural, 63
Transvaal, Electrical trade in the, 301
Treatment, New methods of electrical, 569
Trolley wire, Steel, 176
Tropics, V.B. cable breakdowns in the, by D. M. W. Hutchison, 172
Troubles arising from A.C. railways, Inductive and electrostatic, 388
Tube railways, The ventilation of the, 353, 375
Tungsten importation licences, 515
Tungsten Lamp Association, The, 538
Tungsten wire (German) patent upheld, Validity of, 375
Turbine accidents in the U.S., Steam, 569
Turbo-alternators, Westinghouse, 53
Tyneside power supply data, 352

UNITED States Battleship *Tennessee*, Electric drive for the, 249
U.S. electrical exports to Canada, 253
United States training camp equipment, 144
Unrest, Justifiable industrial, by G. B. Barham, 607
Urban District Councils' Association and electricity needs, 473

VAPOURS by electricity, Cracking hydro-carbon, 500
Vehicle charging, L.C.C. and, 568
Vehicle Committee of Great Britain, Annual report, Electric, 8
Vehicle maintenance scheme, A new electric, 314
Vehicles, Electric: A New Zealand forecast, 303
Vehicles in Sheffield, Electric, by J. A. Priestley, 55, 118
Vehicle notes, Electric, 221, 496
Venezuela, Trade with, 467
Ventilation of sub-stations and transformer houses, The theoretical consideration of the, by T. H. Wood, 51
Ventilation of the tube railways, The, 353, 375
Voltmeters, Electrostatic, by C. H. Wright, 413
Volunteer notes, 14, 38, 63, 88, 112, 135, 160, 184, 209, 233, 256, 280, 304, 328, 353, 374, 400, 424, 446, 474, 496, 522, 541, 567, 593, 616
Voting machine, Electric, 305

WAGES, Cranemen's, 374
Wages, Dublin electricians', 442
Wages: Further advance, Engineering, 65, 201, 447
Wages in Metropolitan electricity works, 521, 543
Wages of Australian tramwaymen: Arbitration, 448
Wages of central-station workers, The, 289, 303
Wages of foremen engineers, 353
Wages in electricity supply, Salaries and, 481
Wages increase at Melbourne, 282
Wages of electrical wiremen, 424
Wages, Railway employés, 90
Wages, Scottish electricians', 39
Wagon, The Garrett patent electric, 100
War: After three years, The, 49
War, Books for British prisoners of, 184
War, Diesel engines and the, by "Pulveriser," 549
War honours, 209

WAR ITEMS—
After the war, 59, 290, 514
Air raid warnings, 155
American comment on the rising cost of materials, 10
American electric signs may be cut off, Big, 251
Appeal on behalf of our sailors, An, 104
Appreciation from the Forces, 34, 59, 347
Aron Meter Co., The, 394
Athens, Fuel shortage in, 394
Australia, 155
Australia and enemy trade, 513
Bad timekeeping, 10
Balfour's (Lord) Committee, 463
Ball bearings, 455
Belgian reconstruction, 368
Belgian trade: A Government Committee, 130
Belgium, The Germans in, 274
Bribery in war-time, 180
British homesteads, 489
Building materials, 455
Building work to be further restricted, 536
Cancelling German contracts in Brazil, 455
Carbon imports prohibited, 10
Chemical trades and the war, 347
China and the German Asiatic Bank, 180

WAR ITEMS—*continued.*
China, Exports to, 104, 204, 256, 328, 368, 418, 489, 561
Coal shortage in Bohemia, 588
Coal shortage in Germany, 204, 323, 394, 611
Coal shortage in Russia, 419
Cockerill Works, The, 299
Commerce and demobilisation, 368
Companies to be wound up, 300
Contraband, 34
Copenhagen difficulties, 34
Copper shortage in Germany, 130
Cost of electric railways materials, 204
"County" men and the war, 513
Coventry strike, The, 536
Dilution of labour and munitions, 204
Disabled men, A Union's welcome to, 34
Discharged soldiers and motor work, 227
Dublin wiring contract, 180
Economic war, 611
Education after the war, 130
Electrical workers' bonus, 454
Electricity works employés and exemption, 65
Employment exchanges, 155
Employment of women, 180
Engineers' bonus, 376, 394, 419, 513
Entertaining the wounded, 104
Exemption applications, 10, 34, 60, 83, 104, 130, 156, 180, 204, 227, 251, 274, 300, 323, 347, 368, 395, 419, 455, 465, 489, 515, 536, 561, 588, 611
Exports from Sweden, 34
Exports, Prohibited, 65, 88, 204, 210, 233, 610
Exports to China, 104, 204, 256, 328, 368, 418, 489, 561, 610
Exports to Switzerland, 155
F.B.I. and Italy, The, 455
Faraday Works War Savings Association, 464
Financial facilities for trade after the war, 514
First problem, The, 130
Foremen and draughtsmen and the war bonus, 464
French Advisory Council, 299
French electrical industry—Anti-German propaganda, 455
Gallenkamp & Co., A., 349
German control of electricity consumption, 83
German industrial census, 227
German methods in South Africa, 180
German war loan, Subscriptions to the, 464
Germany and Switzerland, 513
Germany, Electric supply restrictions in, 274
Germany's after-war trade, 611
Glass Order, 299
Glow-lamp cards in Germany, 374
Government Labour Committee, A, 536
Hull electricity employés and substitution, 83
Imports, Prohibited, 186, 204, 490
Industrial reconstruction, 536
Industries established after the war, New, 34
King George's Fund for Sailors, 347
Labour disputes, 156
Leaving certificates, 59, 186, 377, 418
Machinery trade after the war, 347
Mine electricians' exemptions, 542
Ministry of Munitions, 394
Ministry of Reconstruction, 455
Munitions Council, A, 180
Munitions levy, 180
Niagara power and munitions, 227
One-man business, The, 323
Part-time national service, 588
Prohibited exports, 65, 88, 204, 210, 233
Prohibited Swedish exports, 252
Protected trade certificates, 226, 251, 290
Rebuilding of Belgium, The, 104
R.F.C.: Women wanted, 347
Railways after the war, 489
Raw materials after the war, 368
Reconstruction in France, 227
Reconstruction in Russia, 347
Reconstruction, The work of, 130
Recovering the French collieries, 83
Recruiting in munition areas, 368
Rome, Sale of electric heating apparatus forbidden in, 610
Russian industrial demobilisation, 455
St. Dunstan's scheme extended, 274
Schaffer & Budenberg shares, 252
Scrap steel collection, 588
Shipbuilding, 561
Shipping after the war, 10
Silvertown employés' war funds, 464
Small supplies of war material, 227
South African Engineers' Club, 10
Steel supplies, Control of, 588
Sweden, Exports from, 34
Tar oils, 418
Thyssen profits, 83
Trade after the war, 89
Trade policy, 561
Trade Press and War Loans, The, 204
Trade protection cards, Indiscriminate granting of, 227, 251, 299

WAR ITEMS—*continued*.
Trade with China, 155
Trade within the Empire, 155
Trading with the enemy, 32, 83, 130, 180, 227, 274, 323, 419, 464, 513, 561, 610
Tramwaymen in the war, Municipal, 299
Tungsten ores, 561
Undertaking repudiated, An, 463
Unscreened lights, 455
Wages in Germany, War-time, 299
War loan, 610
War poetry, 180
Westinghouse War Relief Fund, British, 227
When the nights draw in, 227
Where Germany gets copper, 227
Women's work in engineering, 394
Women's work on engineering munitions: Permanent memorial, 514
War on municipal engineering and public health, The effect of the, 446
War prices for electrical energy, 316
War taxation on electrical energy in Russia, 541
Water heating by electricity, by W. J. Wilson, 567
Water power in Morocco, 526
Water power in Sweden, 530
Water power proposals, Cheshire, 2
Water supplies as sources of power, by C. H. Roberts, 560
West Indies, Trade with the British, 165
Westinghouse changes, British, 40
Westinghouse, Turbo-alternators, 53, 88
Westinghouse works committee, A, 371
Whitley Report and industrial unrest, 378, 471, 482
Whitley Report, Raw materials and the, 361
Wild-Barfield steel hardening process, The, 88
Wills, 161, 187, 211, 258, 283, 331, 354, 379
Wilson's speech, President, 542
Wire, The fusing of an electric wire, 211
Wireless transmitting stations on German aeroplanes, 607
Wiremen, Wages of electrical, 424
Wiring, Furnace control, 294
Witwatersrand, An electric steel furnace on the, 593
Women electricians wanted, 543
Women's work exhibition, 38
Women's work in engineering, 303
Wordingham, C. H., President of the Institution of Electrical Engineers, 383
Works committee, A Westinghouse, 371
Wrinkles, Useful, 38

X RAYS after the war, by Captain G. W. C. Kaye, 525

ZINC in Utah, Electrolytic, 592
Zinc ore, The electrolytic treatment of, 112, 127, 353
Zirconia as a refractory metal, 112
Zurich Bank and the depreciation of foreign investments, The, 497

Printed by WM. CATE, LTD., 147-150, Gt. Saffron Hill, E.C. 1, and Published by the Proprietors, H. ALABASTER, GATEHOUSE & KEMPE, 4, Ludgate Hill, E.C. 4.